

Revised May 2001

Zoological Parks Board of  
New South Wales

THE  
PORTICO  
GROUP

+

AldrichPears  
*associates*

# ZOO 2000

The View to the Future

A Master Plan for the Process of  
Renovation, Refurbishment &  
Redevelopment  
December 13, 1999

TARONGA  
ZOO



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## 1.0 Introduction

In January 1999 The Portico Group, a zoological exhibit planning and design firm from Seattle Washington, was engaged to begin the process of updating the master plans for both the Taronga Zoo and Western Plains. There were no restrictions placed upon the process beyond the requirement to listen carefully to the many voices that form the fabric of the Zoo, and to make the necessary recommendations, based upon our knowledge of sustainable "world class" facilities, that would help coordinate collections and approach, and enable both Zoos to fully live up to their potential.

The process for Taronga began with a "visioning" workshop with key departmental representatives to develop an understanding of the role of informal public education institutions, and the implications for providing the types of experiences that visitors are interested in investing their time and resources in. As a result of this process, the firm of AldrichPears, of Vancouver British Columbia, was added to the planning team to create a solid framework for interpretation throughout the Zoo.

Over the past 10 months, subsequent reviews and discussions have occurred with both Staff and the Board to gather input on education, animal management, visitor services, asset management and services access as various plans and suggestions have been proposed.

This document presents the results of this process, along with pertinent background material on the planning process in order to provide a better understanding of the Plan itself. In addition, a series of Implementation Recommendations have been developed to aid future planning efforts.

Recommendations within this document are based, not only upon an understanding of zoo operations and animal holding requirements, but also an understanding of the way in which our visitors meaningfully learn and experience the world around them. Bringing these key ingredients together within the beautiful setting that is the hallmark of the Taronga Zoo will enable the Zoo to fulfill its role as a leader in the environmental education of its visitors.



## 2.0 The Need for the Master Plan Update

The need for an update to the existing Master Plan is dictated by how applicable existing planning principles are to the Zoo's current situation. As part of the process of understanding these principles, it is important to develop an understanding of the planning history that has put these principles into practice for without a sense of the past, the future is even more uncertain.

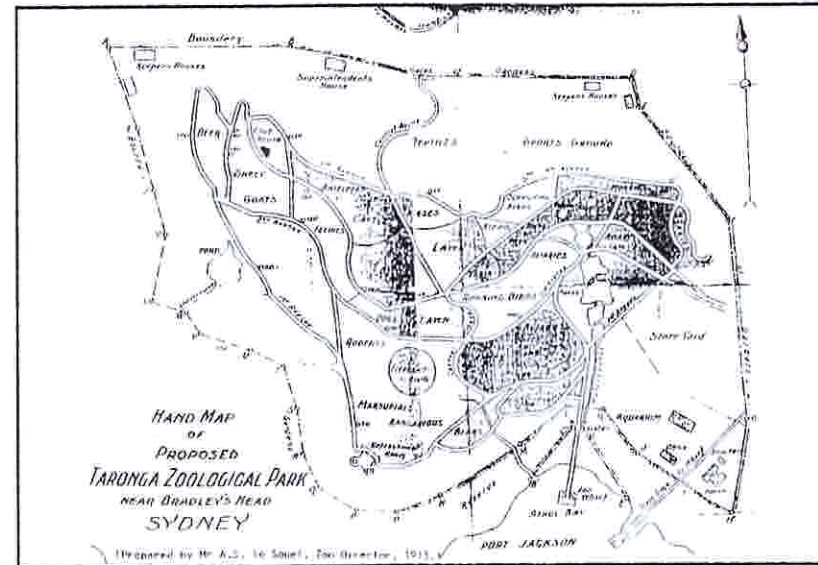
The following is not a definitive history of the Taronga Zoo. Such a history can be found in the 1989 Development Master Plan. Rather, it is a history of the major planning endeavors that have resulted in the physical form of that we see around us today. It is written as a critique of past decision-making in the hopes that it can provide a perspective that allows for honoring the past while making decisions about how to best create understanding and delight in the future.



The Top Entry on Opening Day

The Taronga Park Zoological Gardens was opened to the public in 1916 with great fanfare and celebration. The new facility was laid out to take advantage of the sloping topography and its memorable vistas with considerable attention paid to the provision of visitor amenities within a park-like setting, "embellished by the highest landscape gardening". There were ample and gracious entry buildings and tearooms; and seating, overlooks and promenades from which to observe the evolving splendour of the Sydney Harbour and skyline. Visitors were provided with views of animals where "the barrier of real and

artificial rock has been substituted for the erstwhile rigid lines or iron bars which invariably suggest imprisonment. Elephants, monkeys, bears, lions and ... many small mammals of other kinds all share in this privilege of seeming to be free."<sup>2</sup>



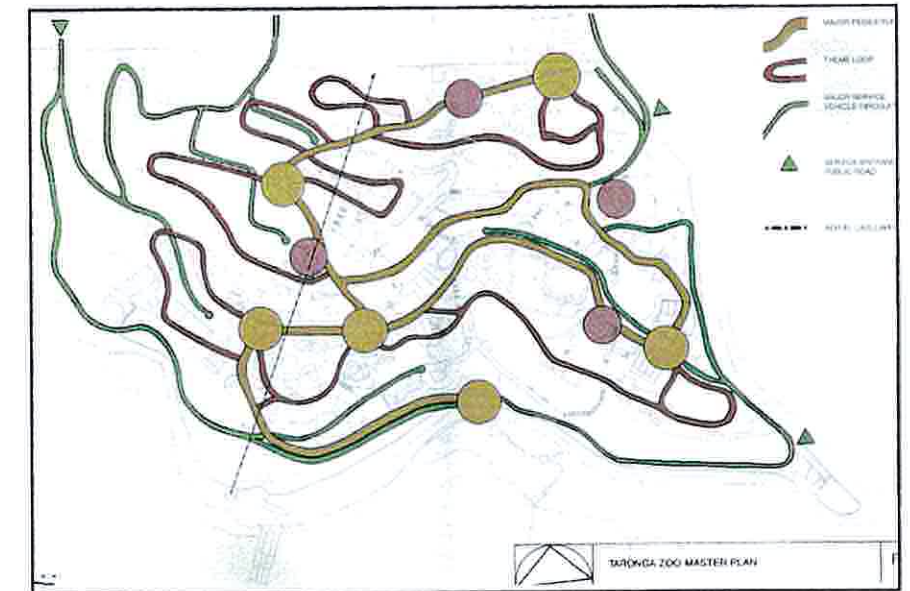
Original Site Plan, 1916

During the ensuing years, additional species were added to the collection, reflecting a desire to continue to be seen as a leader within the international zoological community, and to demonstrate an expanding knowledge of the natural world. However, in many cases progress came at the expense of the feeling and function of the site and an appreciation of its heritage. Once the pattern of the fabric of experience began to be neglected, it became subsequently easier to make incremental, piece-meal decisions. Pathways were cut off as new exhibits were placed in marginal locations, and visitors were left to find their own way.

The Master Plan of 1970 began to address the need to clarify exhibit areas and circulation patterns, including the recommendation for the provision of a perimeter service loop. The development of the existing Australian Sections 1 and 2 were a direct result of this plan.

However all such plans must be continuously monitored and updated. It was not until 1986 that the next in-depth review was undertaken. The ensuing Development Master Plan of 1989 thoroughly documented the history, the existing conditions, and sought to make further recommendations about circulation and

service improvements, while also describing emerging exhibit design principles, materials and technologies that could be applied to new exhibits. It is a masterful work with many recommendations that still apply. It did not, however, produce a clear compelling vision of how the Zoo could take advantage of its existing attributes to best attract visitors and meet their desires for meaningful leisure ... being outdoors, learning together as individuals, families and groups in a beautiful setting.



Current Site Plan Showing the Same Area as the 1916 Plan

Today, we know more about what attracts and motivates our visitors. We also know more about what motivates potential sponsors. Because visitation and sponsorship go hand-in-hand in enabling an institution to successfully meet its mission, this Master Plan Update seeks to take advantage of that knowledge to create an dynamic picture of what visitors might experience and learn at the Taronga Zoo 20 years from now. Such a coherent vision will enable the Zoo to engage in predictable planning to create experiences that successfully captivate the public, sustain visitation and funding, and enhance the level of environmental awareness and measurable conservation outcomes that are at the heart of all of the Zoo's efforts.

<sup>1</sup>President of the Zoological Society, 1910.

<sup>2</sup>Taronga Zoological Park Trust Annual Report, 1916.

### 3.0 The Planning Process

This planning process began with an analysis of the existing conditions: what worked, what didn't, and what components of the experience had lasting value to the overall mission of the Zoo. Once these pieces were understood, they could be re woven into a coherent pattern that met the needs of the various departments within the Zoo, including Life Sciences, Visitor Services and Asset Management, as well as the visitors.

#### 3.1 Key Criteria

The following criteria were developed to guide the evaluation process and to provide core principles around which to build the ensuing plan:

- A. The primary professional concern of the Zoo is the well-being of its animals. Holding areas should be large enough to provide for the physical and social needs of the animals, as well as the staff.
- B. The primary public function of the Zoo is to provide an inspirational, relaxing educational experience where visitors can come face-to-face with exhibits of wild life and enjoy understanding their connections to and responsibility for it.
- C. The location of existing major animal exhibits should be maintained wherever possible to preserve capital investment. Smaller exhibits should be relocated / redeveloped adjacent to these exhibits so that the arrangement and the interpretation intuitively reinforce the educational messages inherent in the overall thematic precinct development.
- D. These primary thematic precincts should be based upon zoogeography in order to facilitate an understanding and wonderment of the natural world that physically surrounds us.
- E. Sub-precincts within each of these zoogeographic zones should be based on biomes in order to most closely match the character of the existing natural vegetation and topography of the site.

<sup>3</sup> "The geographical distribution of animals at different taxonomic levels." (The Concise Oxford Dictionary of Ecology, 1994.)

<sup>4</sup> "The biological subdivision that reflects the ecological and physiognomic character of the vegetation, e.g. tropical forest biome, etc." (Ibid)

- F. Where there is no particular fit between specific animals and the proposed zoogeographic zones or biomes, other groupings can be used as is appropriate for learning and display.
- G. Visitor circulation should foster easy exploration of the Zoo for both first-time and repeat visitors. Multiple linked circuits through the various thematic precincts should reconnect with a central core of visitor services and open space.
- H. Visitor circulation should also promote easy access and security for after-hours and special events within the Zoo.
- I. Service circulation should be behind the scenes as much as possible, however recognizing the constraints of the site and the critical nature of such access, visitor and service circulation may have to coexist within certain corridors. Such conditions should be planned for and should not disrupt the overall visitor experience.

#### 3.2 Elements of Lasting Value

Given these criteria, an evaluation was made to understand the existing arrangements of major exhibits, features and circulation, and to determine which of these had lasting value. This list does not pretend to be a definitive enumeration of heritage elements, rather it suggests that preservation of cultural heritage must go hand-in-hand with the Zoo's primary vision and reason for being:

*"To inspire Australians and our visitors to explore, discover, delight in and protect our natural world."*

The following serve as the framework to work with to begin to reweave the pattern of experience that follows:

<b>Exhibits:</b>		
Australian Waterfowl	Tiger	Serpentaria
Giraffe/Savannah	Marine Mammals	Kodiak Bear <sup>5</sup>
Chimpanzee & Gorilla	Gibbons	
<b>Features:</b>		
Entry Building	Benches	Open Space
Upper Rock Wall	Elephant Pavilion	
Floral Clock	Significant Vegetation	
<b>Circulation:</b>		
Balustrades	Rustic Bridge	
Stairs	Walls	

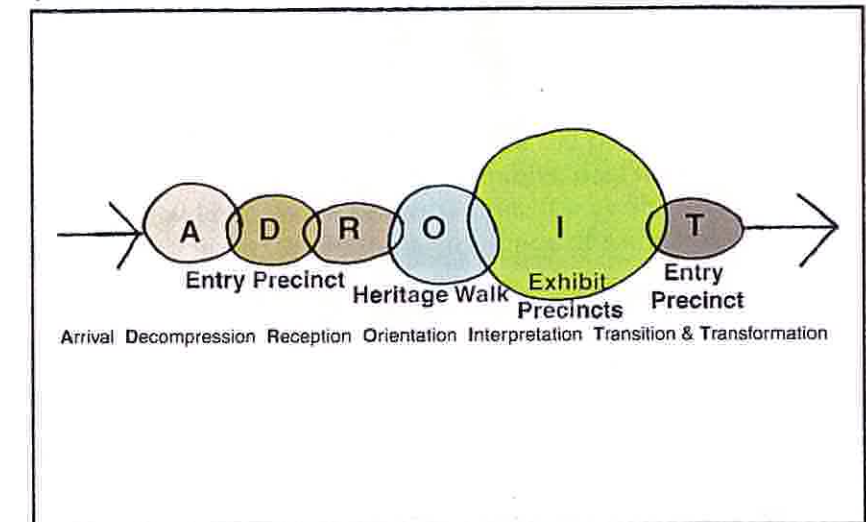
<sup>5</sup> Since demolished for lack of structural integrity as part of renovation project.

### 3.3 Reweaving the Pieces

Once these components were clear, the following steps illustrate the process of thinking that has led to the Taronga Zoo 2000 Master Plan recommendations:

#### A. UNDERSTANDING THE OVERALL VISITOR EXPERIENCE:

When visitors make a choice to visit a public institution, the process of successfully arriving and engaging with the institution undergoes six discreet steps, the so-called ADROIT process:



1. **Arrival:** visitors need to feel comfortable that they know when they have arrived and that they feel safe and secure in their progression towards the front door.  
  
*Implications: Simplify entry sequence and provide clear visual access to the front doors of the Zoo.*
2. **Decompression:** visitors need to be able to breathe a "sigh of relief" and know that they can relax and their needs will be attended to ... this includes the provision of toilets, stroller rental, refreshments ... and just space to sort themselves out.  
  
*Implications: Minimize the decisions that need to be made and provide clear visual signals to the various amenities. Expand the area where visitors have to make these key decisions in order to better organize themselves for their visit.*

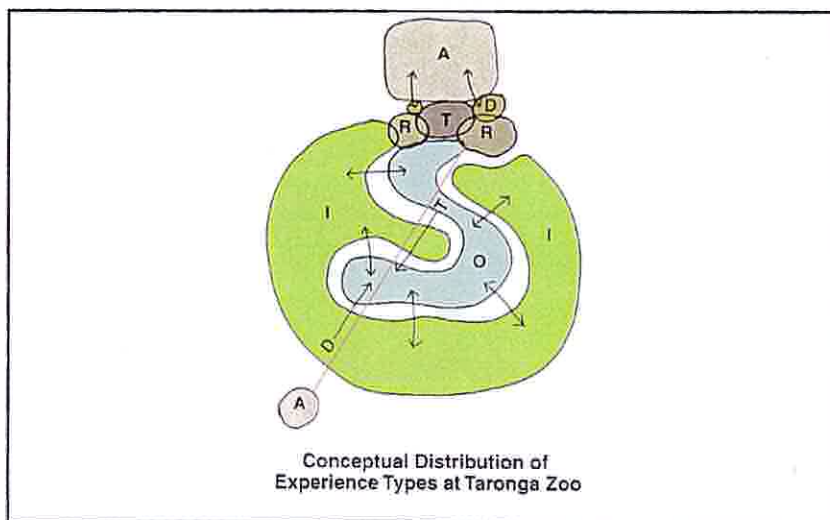
3. Reception: visitors need to know that they are really welcomed by the institution ... and not just for their money. A friendly face at the institution's front door counts for a lot.

*Implications: Provide one place for ticket-taking that is not associated with other decision-making tasks ... and train staff relentlessly.*

4. Orientation: even if visitors have been to the institution many times, they can still become disoriented if there are too many choices. There is always the need to initially pause among familiar surroundings and decide which way to go, and to reconnect with a sense of the familiar once new decisions need to be made.

*Implications: Once beyond ticketing, provide a central organizing spine where there is a clear hierarchy of circulation and way-finding systems, as well as the predictable provision of services and amenities.*

5. Interpretation: once visitors are firmly engaged with "being there", they need to learn to see things in new ways as they continue to explore and build their own knowledge base.

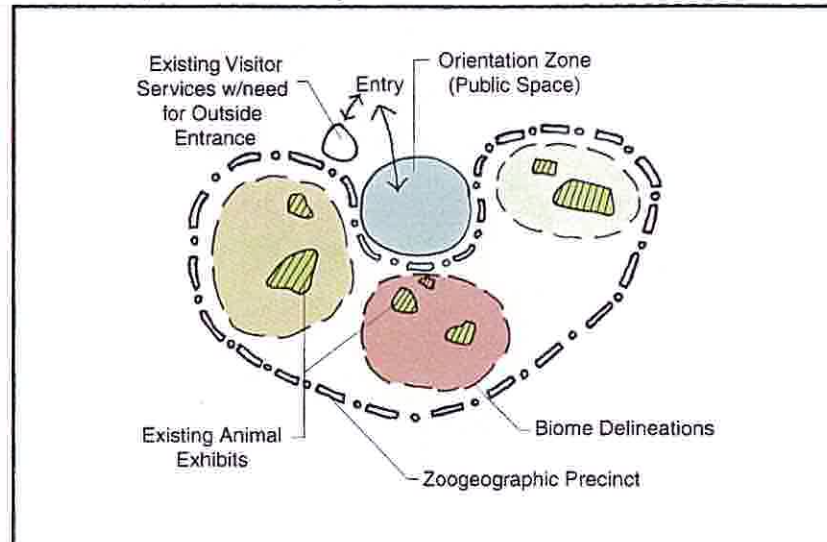


*Implications: Create thematic exhibit precincts with interpretation that tells a compelling, relevant story.*

6. Transition & Transformation: visitors' need to walk away

from the institution feeling good about their experiences and taking something with them that is relevant to their everyday lives.

*Implications: Keep interpretation and programmes current and relevant to visitors' lives, and don't let anything get in the way of creating a pleasant experience as they leave.*



**B. DERIVING THE THEMATIC EXHIBIT PRECINCTS:**

Once existing animal exhibits that have lasting value have been delineated, the process of putting the thematic jigsaw puzzle together ensues. Determining what fits, what doesn't, and what is relevant to the interpretive storyline is an intuitive process that balances existing conditions with possibilities, always with reference to the Animal Collection Plan.

*Implications:* Given a zoogeographic approach and the Collections Plan, as well as the range of animal exhibits which have lasting value, it is apparent that Australia, Asia and Africa form the fundamental geographic units for interpretation and redevelopment. In addition, given the Collections and Interpretive Plans, it is apparent that South America and Papua New Guinea also play important roles. Biomes, and therefore specific exhibits within each precinct, were determined on the basis of discussions with Life Sciences and concurrence with the distribution of existing natural vegetation and micro-climates on site.

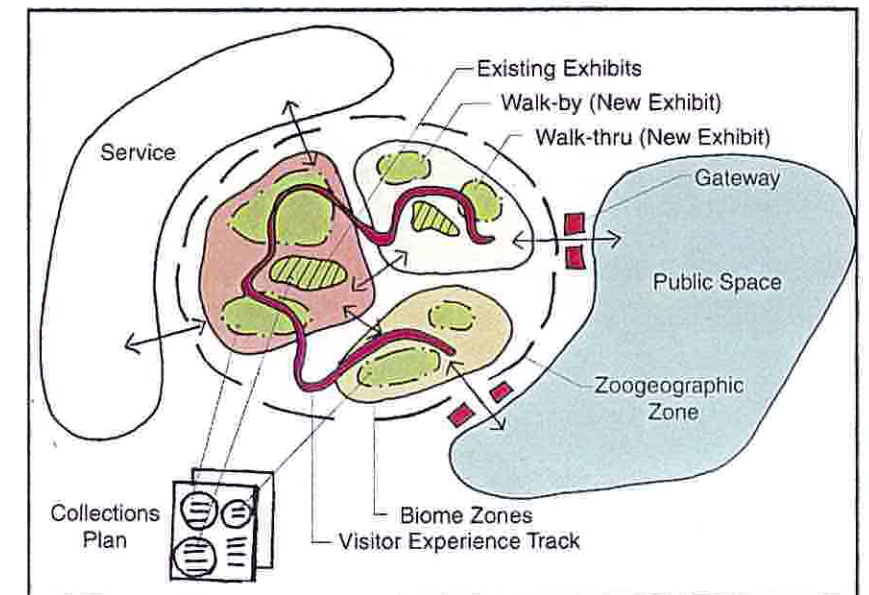
Additional precincts can be maintained / developed based

upon taxonomic or special display considerations, including Serpentaria, an Invertebrate Interpretive Centre and the Children's Zoo.

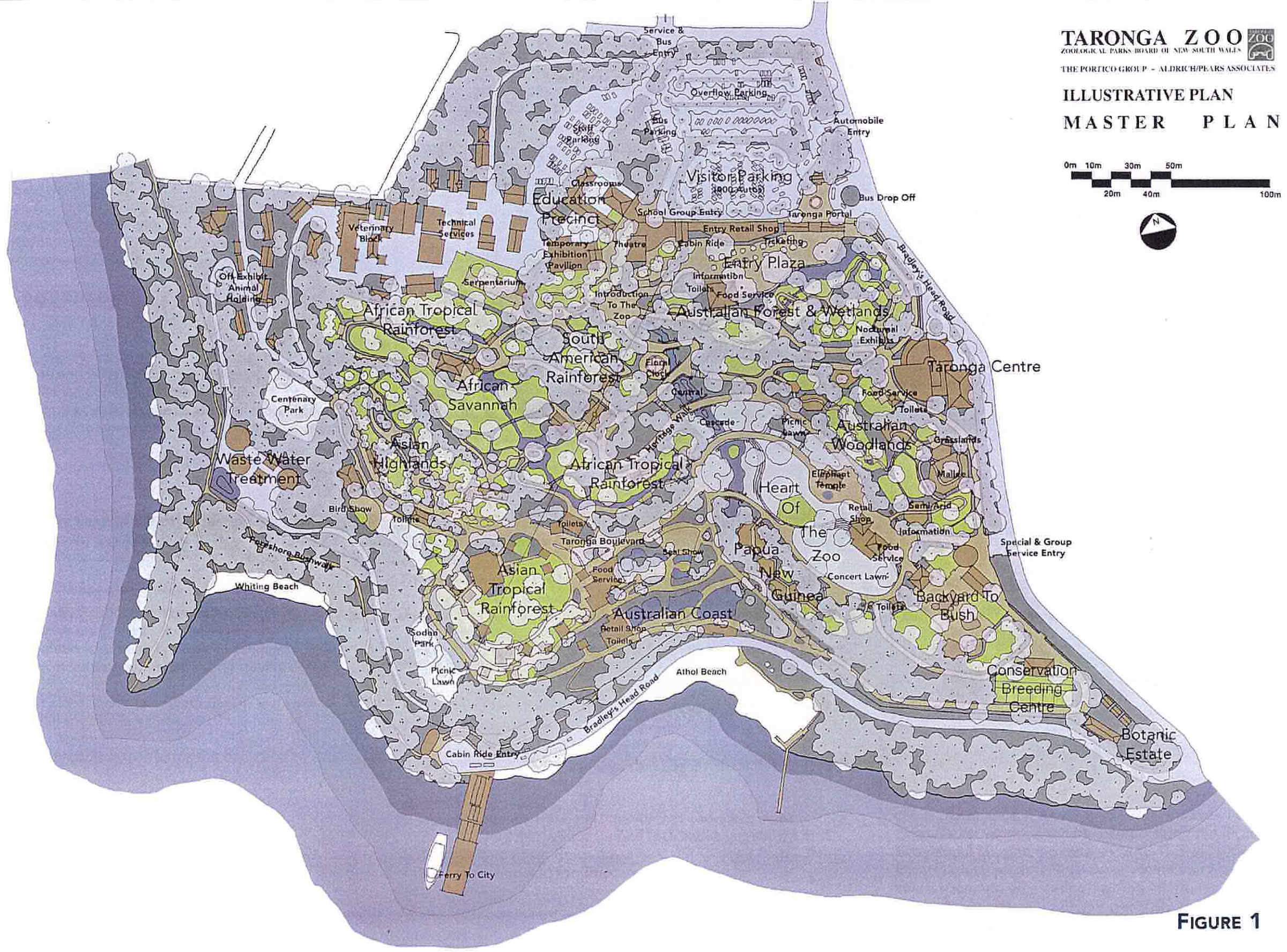
**C. CONCEPTUALIZING THE VISITOR EXPERIENCE WITHIN THE PRECINCTS:**

Introducing visitors to an unfamiliar landscape, but one that is the native habitat of the animals they are viewing, is a powerful way to engage their curiosity and heighten their powers of observation. This technique is called "immersion" ... developing compelling habitats that maintain a fidelity with the real habitats while playing with the sense of the dramatic.

*Implications:* Once visitors leave the public "orientation" precinct, gateways will be developed to provide clues to the thematic content that they will encounter within each of the zoogeographic precincts. Once inside the precinct, the pathway may wind through walk-through exhibits, past walk-by exhibits, or pause at interpretive opportunities. It may also pass from one biome to another as different groupings of animals are



encountered from different habitats within the same geographic zone.



**TARONGA ZOO**  
 ZOOLOGICAL PARKS BOARD OF NEW SOUTH WALES  
 THE PORTICO GROUP - ALDRICH/PEARS ASSOCIATES  
**ILLUSTRATIVE PLAN**  
**MASTER PLAN**

**FIGURE 1**

## 4.0 The Physical Master Plan

The following section describes the basic physical organization of the various precincts as delineated on the Master Plan Update (see Figure 1. Illustrative Plan and Figure 2. Visitor Circulation and Public Precincts). The descriptions of these precincts are not exhaustive. Rather, they have been broadly drawn in order to establish overall conceptual intent and ambience that can guide and link future design endeavors as each phase of development commences. Descriptions within this Section are supplemented with descriptions of the interpretive intent, covered in 5.0 The Interpretive Master Plan.

### 4.1 Entry Sequence

#### 1. Intent:

To develop a gracious and accommodating series of "front doors" to the Zoo that set the stage for the ensuing experiences, and can meet visitors' needs for predictability and welcome, as well as the Zoo's needs for security, organization and revenue enhancement.

#### 2. Ambience:

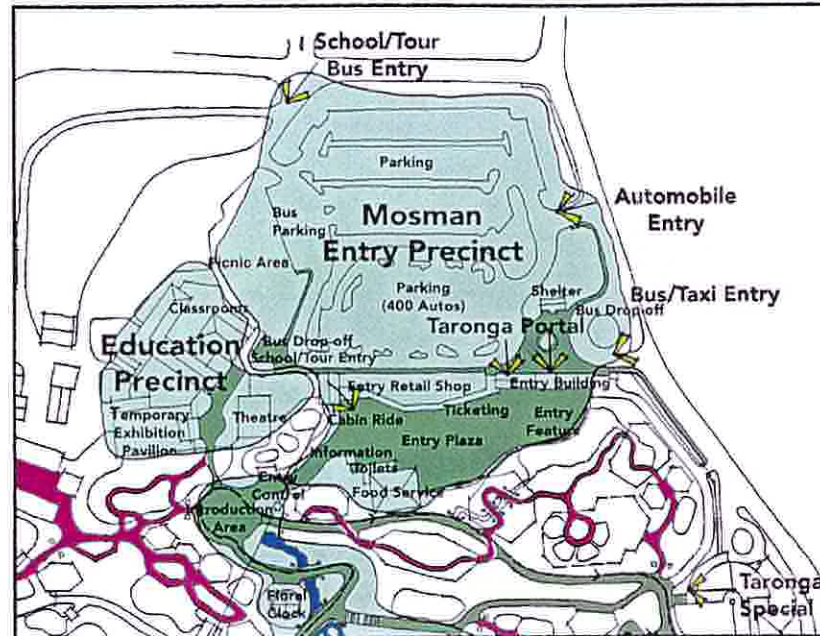
The Zoo is a place in the heart of the city where people can enrich their lives by coming together, face to face, with "wild life", and share in their mutual joy and develop a sense of responsibility for it.

To support this, the Entry Sequences must establish an ambience that surrounds visitors with the beauty of the outdoors, captured within an urbane context. In other words, the landscape, plant materials and the intriguing quality of the ground plane must take precedence over structure as we seek to lead visitors into a closer association with the natural world. Buildings, as they fulfill specific functions, must be seen as background, carefully woven into the overall feeling of a richly vegetated woodland landscape that forms the backdrop to the Sydney Harbour.

#### 3. Description of Elements:

There are two distinct visitor entries to the Taronga Zoo: The Mosman Entry Precinct with its parking area and historic portal that serves approximately 40% of the visitors; and the City Entry

Precinct, with its ferry arrival and cabin ride sequence that serves the majority of the Zoo's visitors. In addition, there are two secondary group entry points at the Education Centre and at



Mosman Entry Precinct Plan

the proposed "Backyard to Bush" Children's Centre.

#### A. The Mosman Entry Precinct:

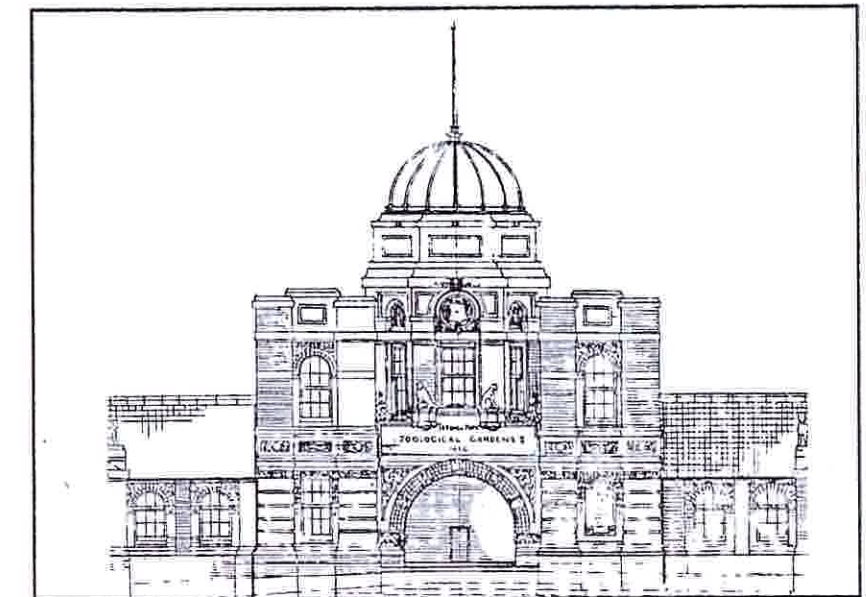
The Mosman Entry Precinct is the formal entry for those arriving by private automobile, taxi or bus. It is comprised of a parking area for cars and buses; a turn-around for public transit, taxi and drop-off; the 1916 entry building, the ticketing/retail/services core that comprises the Entry Plaza; and the upper access to the cabin ride.

The Master Plan envisions the following changes/modifications to these elements:

- 1) Access for automobiles and school/tour buses to the parking area would be separated.
- 2) The parking area will be reorganized to provide a more graceful entry that will be framed with native vegetation and direct visitors to set down areas near the Taronga Portal, the Taronga Centre and the Education Centre.

Spaces will be realigned to provide more efficient parking for both cars and buses, and safe access would be provided directly from the parking area to the entry to the Education Centre and Taronga Portal. Interpretation of the native vegetation and the mission of the Zoo will begin here.

- 3) A small picnic area for use by school groups will be created on the sandstone bluff overlooking the Education Centre.
- 4) The bus turn-around will be realigned to provide waiting for up to three buses at one time while also creating a gathering area for visitors immediately in front of the 1916 portal that is free of transiting vehicles.
- 5) The 1916 entry building, The Taronga Portal, will be revitalized as a gracious transition between the inside and the outside worlds. The original steps should be reinstalled at the central opening with the archway immediately to the right providing an accessible route to the internal upper plaza, as well as access to the main Zoo Friends office.



The Taronga Portal circa 1916

- 6) Ticketing will no longer occur in the archway of the Taronga Portal. Instead tickets will be purchased for entry to the Zoo, the cabin ride or special events once visitors arrive in the Entry Plaza. Ticket windows will be located along the façade of the Entry Retail Shop to facilitate security. This will allow the entire Entry Plaza to act as a "free zone" where visitors feel at ease about spending time eating, getting information, getting in line for the cabin ride, shopping or generally getting ready for their visit to the Zoo.

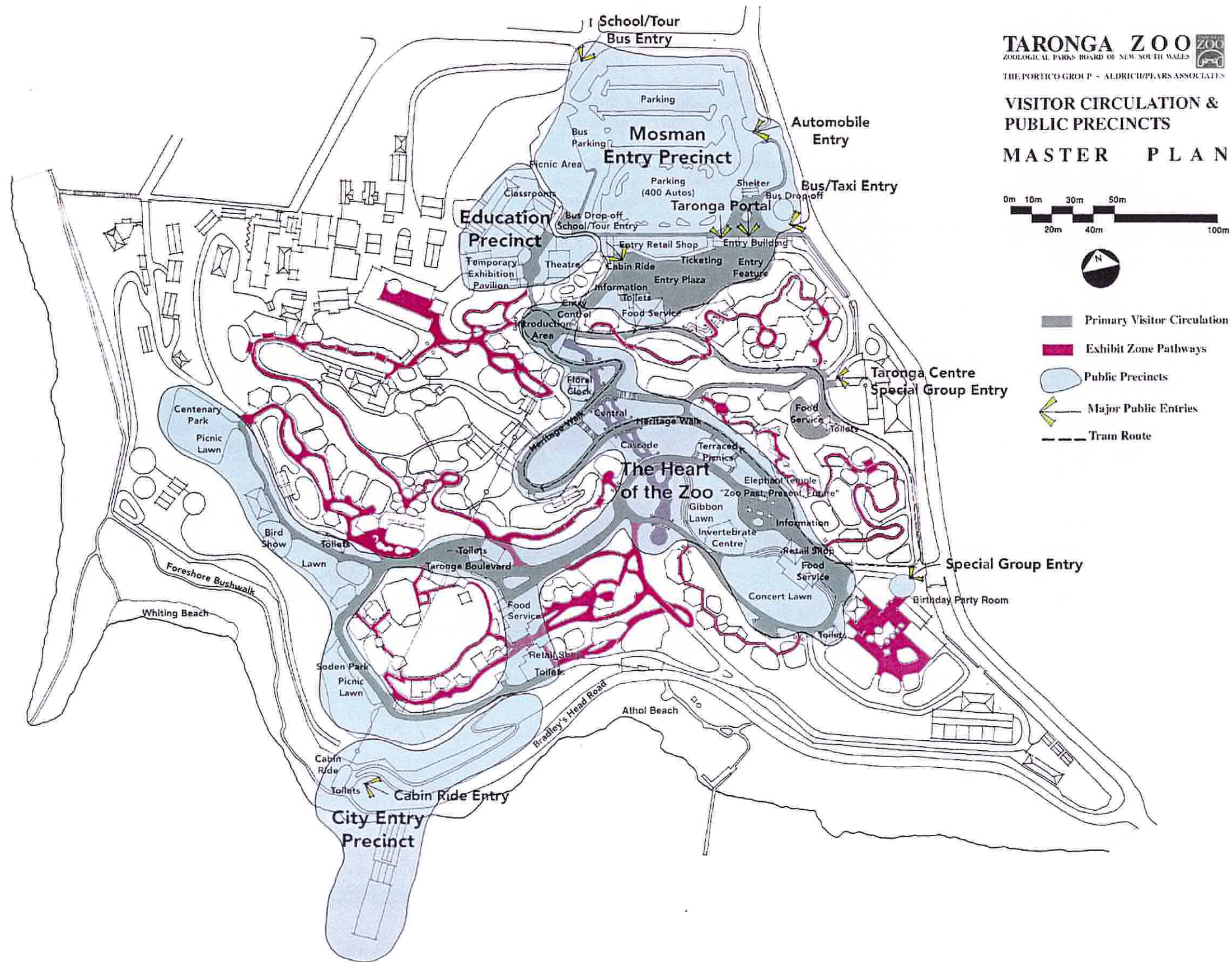


FIGURE 2

While the intent of the development of this "free zone" is to create a more gracious visitor flow by extending the area available for arrival and decompression functions, nevertheless it is important to remember that the same after-hours and security control protocols will remain in effect.

Tickets will be "taken" at the far end of the Plaza, once the cabin ride users have joined the crowd. Additional information will also be available at this point to make sure that visitors are thoroughly oriented to their upcoming experience.

This area will have a capacity for a maximum instantaneous load of 1,000 visitors. This will translate to 3,000 visitors per hour given peak day loading of 1,200 per hour from the renovated Cabin Ride plus the remainder via car and bus with a slightly prolonged dwell-time of 10 minutes at either end of a visit.

- 7) Direct access to the Australian Precinct will be discontinued in order to provide only one secure point of visitor arrival and departure into the animal exhibit precincts. The original rock wall at the edge of the Plaza would be linked together in order to provide an introductory overlook into the Australian Wetlands and a seating wall under the spreading canopy of the centrally located Fig Tree.
- 8) Food service will be redeveloped as a quality experience where up to 150 visitors could be accommodated inside and 250 outside to enjoy breakfast, lunch or dinner on a terrace overlooking the slope that falls towards The Heart of the Zoo and distant views of the Sydney Harbour.
- 9) Visitors will be able to both enter and exit this area through the Entry Retail Shop, thus ensuring the greatest opportunity for exposure to a range of gifts, memorabilia and books that support the Zoo's mission. The shop would be sized to handle between 175- 200 visitors at one time.

**B. The Education Centre:**

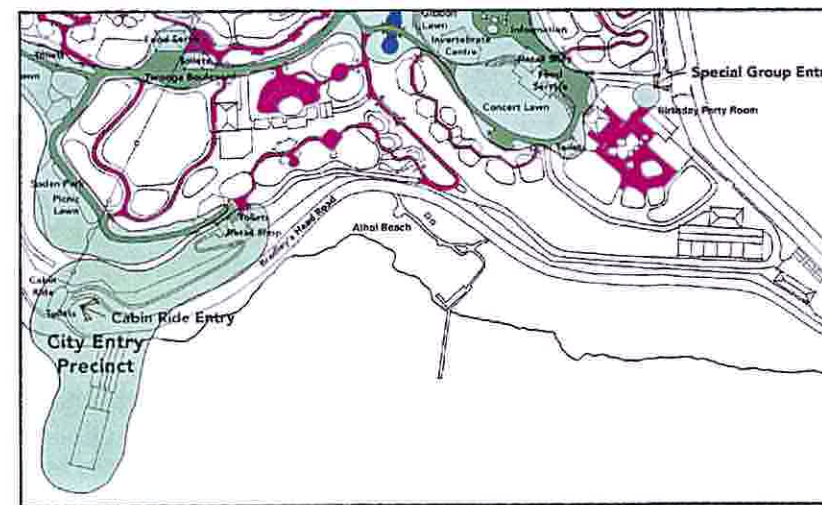
The entry to the Education Centre provides an opportunity for prearranged groups to be personally welcomed into a special portion of the Zoo that is focused on providing the active instructional components that support the rest of the Zoo's more informal, but inspirational experiences.

As envisioned, the Education Centre Precinct will become the home to not only classes and ongoing education programmes, but also travelling exhibitions, lectures and films. In addition, it will also house ACTI, one of the Zoo's premier resources for enabling conservation throughout the developing world.

In order for this to occur, access must be easy, direct and controlled, with substantial gathering area for groups as they wait for their assignments and subsequent disbursement.

**C. The City Entry Precinct:**

The City Entry Precinct is the dramatic location at the Harbour's edge where visitors arrive from the city via ferries. It is comprised of the ferry dock, a bus turn-around and drop-off, overviews of Athol Beach, access to the Foreshore Track, the entry to the Zoo's Cabin Ride, and the experience of the Cabin Ride itself.



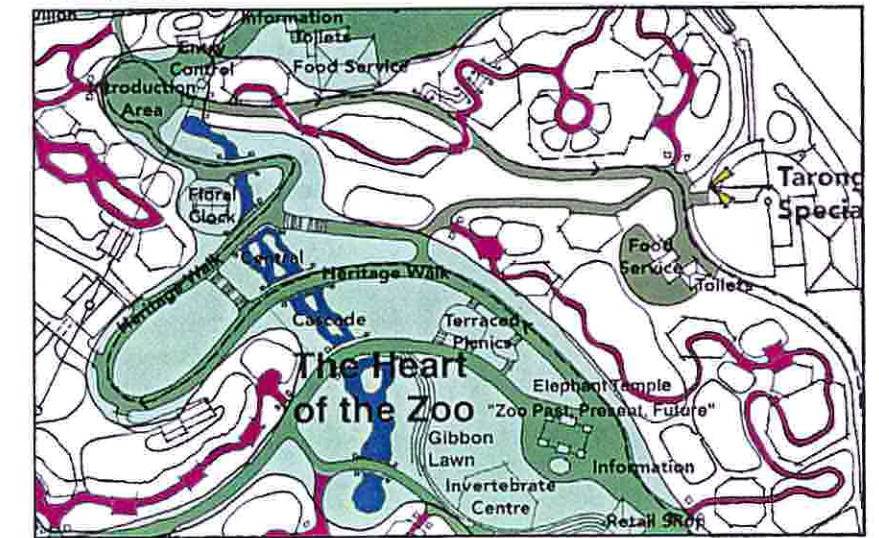
The Lower Portion of The Zoo Showing the City Entry Precinct and the Children's Centre

The Master Plan envisions the following:

- 1) The ferry and the ferry dock would become more "Zoo-friendly" with appropriate theming, sheltering and information that would make it easy for first time visitors to understand where they are going.
2. The bus turn-around would have sufficient seating, shelter and signage to orient visitors and make them comfortable during the time that they spend there. In addition, food and souvenir carts could be provided during peak seasons to

provide refreshments and souvenirs.

3. Overviews of Athol Beach would be enhanced and interpreted. In addition, access to the beach would be incorporated in order to provide additional foreshore and maritime interpretive opportunities.
4. Access to the Foreshore Track and the Track itself would be a prime focus of the redevelopment of this area in order to provide overseas and first-time visitors with an understanding of the nature of Sydney Sandstone vegetation, and to expand the opportunities for Sydneysiders to enjoy their own waterfront.
5. The Cabin Ride is currently under redevelopment. The Interpretive Master Plan, however, should be referenced in order to firmly link it into the overall experience of the Zoo as it evolves.



Heritage Walk

**D. "Backyard to Bush" Children's Centre:**

The special group entry to the Zoo's new "Backyard to Bush" Children's Centre provides the opportunity for prearranged day care groups, schools and family groups to gain direct access to this hands-on learning environment. Because of its location at the lower portion of the site, travel time to and from either of the entries will be an issue with either children who have a short attention span, or groups that have short visit timelines.

## 4.2 The Heritage Walk

### 1. Intent:

To develop a gracious and accommodating central circulation spine that can link together the major exhibit precincts while also providing direct access from the Upper Entry to the Heart of the Zoo which is the focus for visitor services and after-hours public events.



Visitors/Walking Tram

The Heritage Walk seeks to reestablish the flow and feel of the original prime circulation route into and through the Zoo, linking together a series of currently disassociated heritage elements: the central water flow route, benches, balustrades, stairs and open spaces.

### 2. Ambience:

Details (paving, planting, signage, colours etc.) would reinforce a connection with the past in ways that are intriguing, engaging and thoroughly charming. New benches, walls and balustrades would pick up the texture of the existing heritage elements, reinforcing visitors' connection to that time when Taronga was founded.

The walkway itself would be wide enough to accommodate both special event crowds as well as the one-way circuit of the Zoo Tram, recognizing that peak day crowds will disburse themselves equally throughout the exhibit precincts as part of their coming and going through the Zoo.

The regularly scheduled, rubber-tired Zoo Tram will use this route to complete the circuit of bringing visitors through the Australian Precinct to the Heart of the Zoo and back up to the set down area at the beginning of the Heritage Walk, overlooking the Floral Clock. (See Circulation Plan, Figure 5).

### 3. Description of Elements:

There are several distinct areas within the Heritage Walk corridor. These include the Introduction Area at the start of the walk, the relocated Floral Clock, and the Central Cascade.

#### A. Introduction Area:

This plaza area at the head of the Heritage Walk is the first decision-making point within the Zoo proper, allowing visitors to get the bearings and decide upon the course of their visit. From here pathways take off for "Australia" and to "Africa" via "South America". In addition, there is direct access to The Education Precinct and, by following the course of the Heritage Walk, The Heart of the Zoo.

Paving would be a rich mosaic introducing the mission of the Zoo and providing a thematic overview of the stories to come: looking at the rest of the world through the particular filter of the Australian experience. There would be plenty of seating around the edge of the plaza that was an extension of the artwork within the paving.

From the edge, views would unfold of the Harbour beyond and visitors would be able to get a feel for the Zoo landscape as it flows down the slope toward the Heart of the Zoo. The Zoo Tram could be boarded at this point from a sheltered station at one side of the plaza.



Mosaic Paving Showing Longitude and Latitude Lines

#### B. Floral Clock:

The Floral Clock would be relocated to a position immediately below the Introduction Area, where visitors would be able to check the time of their visit and view the seasonal floral displays as they look out at the view.

This location would restore the clock to its prominence as part of the original entry sequence at the foot of the stairway leading

down from the entry. In addition, it would place the Floral Clock in a better horticultural position to be able to grow and maintain the type of ornamental plantings that fit in with its heritage designation.

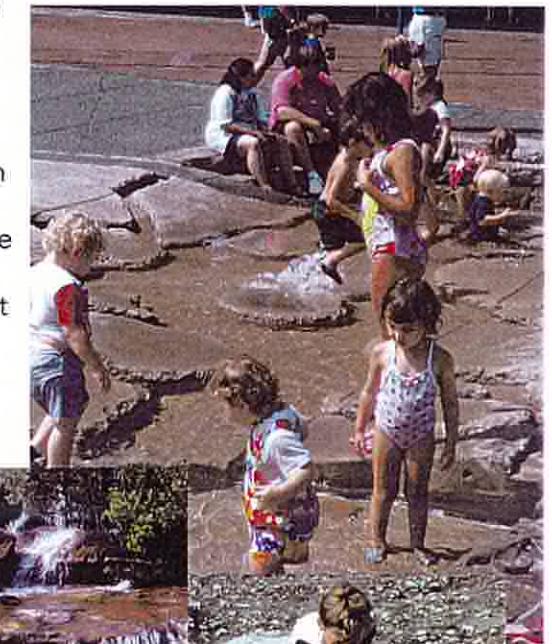
#### C. Central Cascade:



The alignment of the heritage Walk generally follows the flow of a pre-existing watercourse down the hillside, along and within which many of the Zoo's past and current exhibits have been constructed. As the Walk weaves its way gently along the contours of the land, it encounters this watercourse again and again, providing play, rest and interpretive opportunities along the way.

The Central Cascade would formalize those opportunities as a series of garden "rooms" arranged along a series of constructed

falls and pools. These would provide climbing and play areas for children, as well as rest and gathering areas for groups and families as they make their way up and down through the site. Able-bodied visitors would also be able to use the stone stairs along this route as a shortcut to The Heart of the Zoo. Plantings would be a mix of natives and exotics, demonstrating fun and engaging horticultural approaches to planting for wildlife.



Playing with the Cascades

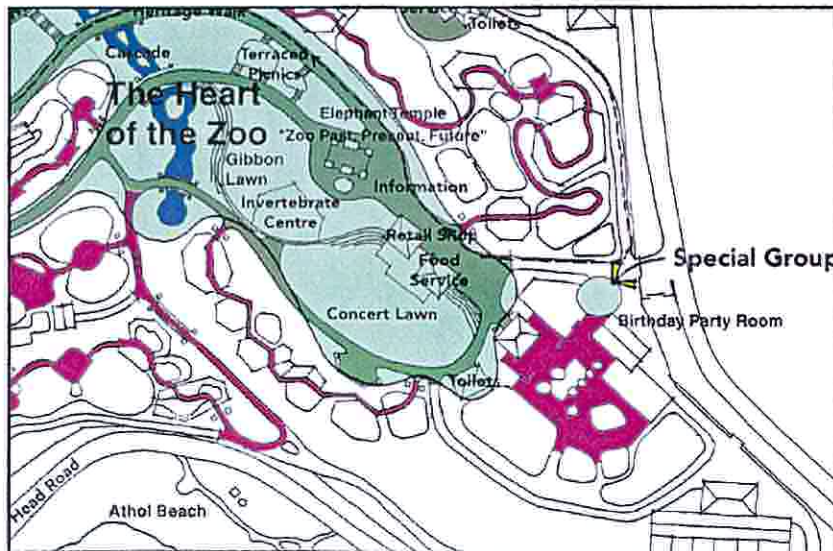
### 4.3 The Heart of the Zoo

**1. Intent:**

To develop a central visitor-oriented space within the Zoo's exhibit precincts that provides visitor orientation to the Zoo site and is the focus for visitor services, special interpretation about the role of the Zoo, and after-hours public events.

**2. Ambience:**

The Heart of the Zoo is will be developed in the relatively level area around the existing features of the Elephant Temple, the existing Sarina's Café and the Concert Lawns. The ambience that has been established along the Heritage Walk will be maintained throughout this area, using the restored Elephant Temple as the focal point for thematic development.



**3. Description of Elements:**

*A. Elephant Temple:*

The restored Elephant Temple will act as the terminus of The Heritage Walk become the focal transition into The Heart of the Zoo. Because of its importance in visitors' memories, its new role will be as an interpretive centre where information will be continuously available about the role of zoos, "What's

New at Taronga" and current events that affect the nature of the natural world around us.

*B. Conservation Fountain:*

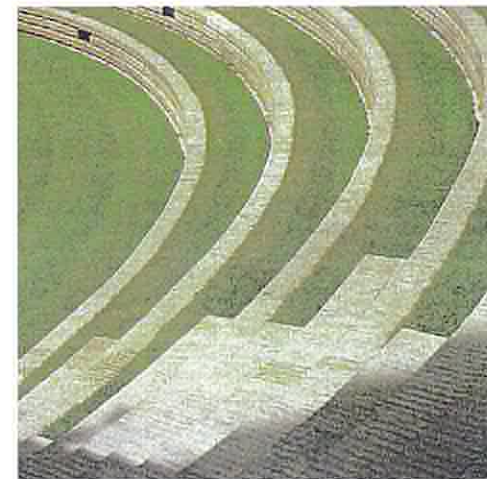
The Conservation Fountain will be the focal point of the landscape immediately surrounding the Elephant Temple. Located in the position of the old elephant pool, it will be a direct reference to elements from the past and the elephants that used to inhabit this area of the Zoo. It will be both playful as well as purposeful: playful, insofar as it will engage visitors in constant discovery of the various sounds and patterns of water; purposeful, insofar as it will act as a collecting basin for coins.

*C. The New Sarina's Café:*

As Sarina's is redeveloped, it will become another feature within The Heart of the Zoo, anchoring the far end of the Gibbon Lawn. It's redevelopment will honor the ambience established along the Heritage Walk, hearkening back to those days when it was a treat to sit down and take tea on the terrace and look out to the views and the vegetation that surround it.

*D. The Concert Lawn:*

The Concert Lawn will be gently recontoured at the same time as Sarina's and the Invertebrate Centre to insure that the flow of the landscape works together. Within the terraced lawns that step gently down the slope, trees will be planted that provide shady places to gather during the day regardless of whether there is a concert there or not.



Groupings of Sydney Sandstone boulders could be placed throughout, thus providing happenstance seating for adults, as well as impromptu play opportunities for kids.

*E. The Gibbon Lawn:*

The "lawn" area that covers the bulk of The Heart of the Zoo is not meant to be strictly an area of grass. Rather, it is an area that will be developed as a park-like plaza that complements the Elephant Temple. It also provides seating and gathering areas for large groups of people; accommodates small temporary exhibitions; and acts as a listening post where visitors can gather to watch the gibbons vocally interact with the calls emanating from the Asian Tropical Forest.



### 4.4 The Exhibit Precincts

**1. Intent:**

To develop a series of discreet exhibit experiences where visitors can comfortably spend time experiencing the thrill of discovery and the joy of acquiring new insights in face-to-face encounters with living animals and staff of the Zoo.

To supplement such encounters with free-range encounters with native Australian wildlife throughout the Zoo.

**2. Ambience:**

In each zoogeographic precinct, visitors will be immersed within a landscape that captures the essence of each biome within those various precincts. Pathways will replicate the feeling of walking through a natural landscape. Entry gateways, vegetation, pathway surfacing, structures and signage will form a unique amalgamation of styles that reinforce the uniqueness of each animal and their habitat. As in Nature, access along pathways will be bidirectional in all cases.

The special purpose interpretive centres will be developed as stand-alone facilities that, with the exception of the Elephant Temple, do not draw attention away from the subject matter and to themselves. They will integrate well with the surrounding landscape and demonstrate sustainable qualities that will be the hallmark of all Zoo buildings.



FIGURE 3



### 3. Description of Elements:

The layout of the various exhibit precincts and animal exhibits are shown in Figures 3 and 4. As described in Section 3.0, The Planning Process, these layouts have been determined on the basis of building meaningful visitor experiences around key exhibits and features that have lasting value; the Collection Plan; and the character of the existing topography, vegetation and microclimate.

The animals shown within each precinct are shown for the purpose of illustrating what the overall experience might be like, once that area is redeveloped. This depiction is in conformance with the current Collection Plan. It must be understood, however, that things are always in the process of changing and that the Physical Redevelopment Plan must remain flexible and responsive to the Collection Plan.

The following descriptions are purposefully brief since the eventual description will be written at the time the mini-master plans for each area are developed (See Section 6.5.5). In addition, reference should be made to the Interpretive Master Plan (See Section 5.0) for a further overview as to how these areas fit together.

It is anticipated that the experiences within each zoogeographic precinct will be a mixture of rich cultural expression, intimate animal viewing, secretive pathways, fun surprises and physical challenges, and plenty of built-in resting and watching opportunities that capture the character of the distinctive immersive environment within which people find themselves.

#### A. Education:

The Education Precinct will be the highlight of the trip for visitors interested in more intensive hands-on and programmed learning. Whether as an interested visitor or as part of a pre-arranged group, there will always be something to do within this area.

The Education Centre itself will be a place to get more information on classes, to find out how you can become more involved in local conservation efforts, or to learn how ACTI's conservation efforts are doing in the field.

The theatre in the Taronga Centre will be regularly used by Zoo visitors for scheduled audio-visual presentations and

wildlife films.

A temporary exhibition hall will replace the existing meeting and office building and will be developed to showcase topics of interest to Zoo visitors. It will be surrounded by an extension of the Sydney Sandstone Bushwalk where an important island of native vegetation will be preserved and interpreted.

#### B. Australia:

The biomes and animals of Australia will form the central focus for the Zoo's visitor experience. The Entry Plaza will be surrounded by native vegetation and will literally lead directly to the "Top End" exhibit: Cape York. There, visitors can start to get a feel for the incredible diversity of Australian wildlife before they embark upon the rest of their journey through the Zoo.

The remainder of the biomes have been laid out as a transect through the moisture gradient of Australia, from the wettest biomes at the top to the driest at the bottom of the slope. Vegetation will be maintained and pathways will work their way between trees and down the slope from habitat to habitat.

The Zoo Tram will run down through this area on a combination of main visitor pathways and service roads to bring visitors easily to The Heart of the Zoo, as well as to provide an easy loop experience for overseas visitors who are interested in an exciting overview of Australian animals.

The Koalas-in-Focus has been moved to the area of the renovated Nocturnal House in order to provide a dramatic backdrop of the Sydney Harbour for those visitors interested in having their photographs taken with the koalas.

The Nocturnal House will be renovated to provide better conditions for the animals, more dramatic habitats, and a more compelling story about the nature of our adaptation, as well as Australia's animals' adaptations, to the night.

The Backyard to Bush Children's Centre will form the core of the Zoo's commitment to the education of young children and their families. It will provide an intimate, hands-on experience that seeks to unite the disparate worlds of urban wildlife with the world outside of our cities and homes and create a more profound enjoyment and understanding of both.

#### C. Papua New Guinea:



Papua New Guinea provides the opportunity to begin to make the link between the animals of Australia and the animals in the rest of the world. Visitors will be primarily on a boardwalk above the richly carpeted slope of the forest floor.

#### D. South America:

South America will be developed in an area that currently lacks any clear interpretive focus. Because of the similarities between a number of its animal and plant species, and those of Australia and Africa, it has been placed where comparisons can be easily among the three.



#### E. Africa:

Africa will continue to occupy its current location, but will be reorganized to heighten the drama of the siting while clearly interpreting the Savannah and Tropical Rainforests biomes only. Madagascar, much like it does in reality, will form an interesting appendage to the main exhibit sequence.



Because of current investment in major exhibits (Chimpanzee, Gorilla and Giraffe), visitors will enter and leave this precinct by way of a Tropical Rainforest zone, regardless of which direction they arrive from. Careful theming and interpretation will be keys to making this apparent disjunct function.



**F. Asia:**

Asia will be developed on both side of the major cross-Zoo thoroughfare of Taronga Boulevard. The lower portion will accommodate the relocated elephant exhibit within a tropical forest framework (currently underway). The upper portion will be redeveloped as an Asian

Highlands biome, taking advantage of the existing steep slopes, the somewhat cooler temperatures and the major investment in the existing Tiger exhibit.

The major change in this area will be a result of moving the service access to the periphery of the precinct, leaving the visitor zone available for more intimate experiences.

**G. Marine Mammals:**

This precinct is located adjacent to the Harbour foreshore. There, the habitat's relationship to current issues that directly affect water quality and habitat conservation can be immediately appreciated, and its relevance immediately understood.



This area is currently under development.



**H. Invertebrate Discovery Centre:**

This special interpretive area will be developed in the area beneath the Gibbon Lawn. Other sites were investigated during the planning process, however ease of visitor and service access were prime consideration in the selection of this particular site.

Here visitors will encounter dramatic exhibits and special programmes that will lead to a deeper understanding of the richness of the usually unnoticed world that surrounds us. Species will be selected on the basis of regulatory requirements, uniqueness and interpretive value.

**I. Serpentaria:**

Serpentaria will continue to act as the premier interpretive venue for reptiles and amphibians from around the world.



**4.5 Visitor Amenities**

**1. Intent:**

To make each and every visitor feel welcomed and at home at the Taronga Zoo. Provide all of the physical comforts which a visitor would expect as a guest: shade, shelter, or sun as the day determines, easy access to food and drink, comfortable areas to sit and rest, and places to socialize with family and friends and discuss the day's adventures.

**2. Ambience:**

Visitor amenities will take on the character of the Precinct within which they are located. Elements within the Public Precincts of the Zoo will honor both the natural and cultural heritage of the sandstone woodlands of the Taronga Zoo site. They will make use of the site sensitive styles established during the Zoo's early development.

**3. Description of Elements:**

**A. Food Service:**

Principal food service facilities are located at the Entry Plaza, the Heart of the Zoo adjacent to the Indian Elephant Temple, along Taronga Boulevard at the lower Entry to Africa, and the Escarpment Cafe adjacent to the Taronga Centre. Each of these facilities will feature interior seating for 180 visitors and exterior seating of varying capacities.

The food service facility at the Entry Plaza is accessible to customers who are not making a visit to the rest of the zoo and also after normal Zoo hours. The Escarpment Café will also be accessible after hours and have facilities appropriate for groups.

Secondary food service carts will be located where visitor

demand dictates. Care will be taken, however, insure that these less permanent facilities do not violate the character of their respective Precincts nor conflict with the visitor experience.

The Heart of the Zoo will also provide shady lawns, seating, and tables for casual family picnicking.

**B. Retail Shops:**

Retail Shops will be located at the Entry Plaza, the Heart of the Zoo, and the new Lower Zoo Entry in the City Entry Precinct. The shop at the Entry Plaza will be accessible to customers who are not making a visit to the rest of the zoo.

The shop at the Entry Plaza will be the largest, with a capacity of 175 to 200 visitors. The other two shops will be approximately half this size. Proposed sizes are shown in the Exhibit Brief and Capital Construction Costs in the appendix.

**C. Toilets:**

Toilet facilities for visitors will be located at the Entry, two facilities in the Heart of the Zoo, along Taronga Boulevard adjacent to the Food Service, a new location adjacent to the Bird Show, a new location adjacent to the new Lower Exit, and two locations in the Education Precinct.

Budgeted fixture numbers for each facility are shown in the Exhibit Brief and Capital Construction Costs in the appendix. These numbers should be verified with applicable codes and standards as the detailed plan for each area is developed.

**D. Tram:**

The proposed Tram will function principally to return visitors up the long steep grades from the Heart of the Zoo to the Entry Plaza. The one-way loop will minimize conflicts with pedestrians along the Heritage Walk. It will also be possible for visitors to ride down to the Heart of the Zoo, viewing the service road behind the Australia Exhibit Precinct.

Initially, four, 25-person electric or propane powered trams will make the one way loop from Heart of the Zoo to the Entry Plaza spaced at intervals of approximately 4 minutes. This will provide a capacity of 400 visitors per hour. Additional vehicles can be added if required as the relationship of this service to that provided by the renovated Cabin Ride becomes apparent.

Service Precinct. These facilities should be adaptable for use with most of the species of the Zoo's Collection Plan.

**E. Botanical Estate:**

Provide new staff facilities, greenhouses, lath houses, nursery, and storage areas required to properly maintain the Zoo improvements proposed in this Master Plan.

**F. Conservation and Breeding Centre:**

Provide new off-exhibit animal breeding facilities adjacent to the Botanic Estate. These facilities will provide state of the art facilities to implement the Zoo's conservation programs for breeding endangered animals. These facilities must be adaptable as the focus of conservation programmes shifts to new species.

**3. Description of Elements:**

**A. Service Circulation:**

Principal service and emergency vehicle access routes will utilize the perimeter of the zoo and separate internal routes to the extent made possible by topography and the location of existing facilities. Where service routes and visitor pathways must be combined they have been located along principal visitor circulation routes with the pathway width necessary to gracefully accommodate both visitors and vehicles.

With the exception of the service / emergency access route which passes through Africa to link the Staff Precinct at the Taronga Centre with the Service Precinct, service routes are not combined with visitor pathways within the Exhibit Precincts.

**B. Exhibit Precincts:**

Night Houses, Exterior Off-Exhibit Holding areas, and Keeper Service areas will provide safe, comfortable living and working conditions for animal and keeper alike. The importance of providing high quality animal living spaces, which enrich the lives of their inhabitants and the people who care for them can not be stated too strongly. If we are to keep animals in captivity, we have the obligation to provide care, which meets the highest current, professional, standards.

**C. Staff Precinct:**

Develop a new Central Staff facility adjacent to the Taronga Centre which brings all Life Sciences staff and Administrative staff together in a single location. This will facilitate interaction and communication.

**D. Service Precinct:**

Increase the size of the Veterinary Block by approximately fifty percent to serve the Zoo's animal collection as required to meet current professional standards for animal care. Provide additional off-exhibit animal holding facilities in the

Consideration should also be given to extending the Tram to serve the City Entry / Australian Coast Precinct. Limited pathway widths and the lack of suitable turn-around space are hurdles, which can be evaluated during the Mini-Master Plan for this area.

**E. Site Furnishings:**

Benches, tables, and drinking fountains will be provided at appropriate intervals along all pathways in both Exhibit and Public Precincts. Benches should be spaced a maximum of 50 metres apart and drinking fountains no more than 100 metres.

Active play opportunities for children will be provided in several locations in the Heart of the Zoo. The Central Cascades at the old upper seal pools will provide interactive water-play for children and adults alike. A small play facility for the two to five age group will also be located close to the primary picnic areas.

**4.6 Service**

(See Figure 5)

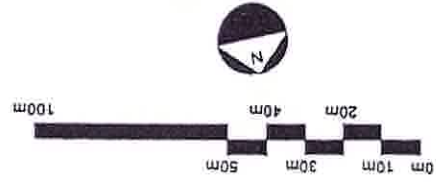
**1. Intent:**

To provide appropriate areas for Zoo Staff – life sciences, education and marketing, and technical service – to perform the myriad tasks which provide the foundation for each visitor's Taronga Zoo experience. Clearly distinguish between those work tasks which should take place 'behind the scenes' and those which should form a part of the visitor experience. Minimize conflicts between service activities and the visitor experience.

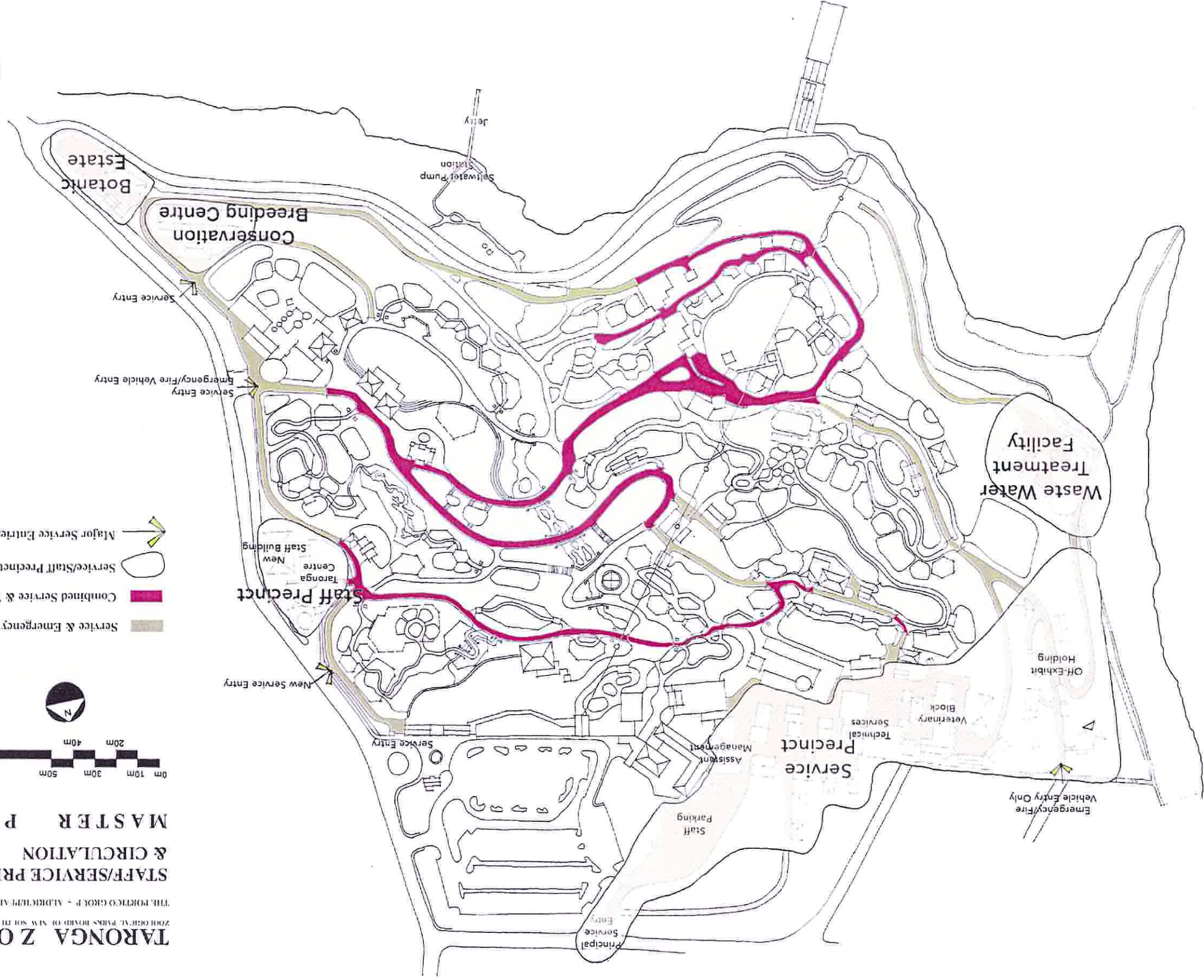
**2. Ambience:**

Many service facilities are accessible to visitors on special tours or hosted visits. Service facilities will take on the character of the Precinct within which they are located. Those within Exhibit Precincts will generally be invisible to visitors, while those within Public or Staff/Service Precincts will take on the character of the Heart of the Zoo: a quintessentially Sydney style which pays homage to the Zoo's natural and cultural history.

**STAFF/SERVICE PRECINCTS  
 & CIRCULATION  
 MASTER PLAN**



- Combined Service & Visitor Circulation
- Service & Emergency Vehicle Access
- Major Service Entries
- Service/Staff Precincts



**FIGURE 5**

## 5.0 The Interpretive Master Plan

### 5.1 Introduction

This section provides a conceptual approach to providing both interpretation and education for visitors to the Taronga Zoo. In planning such an approach, it is important to remember that education is primarily related to school and other groups that make their excursions to the Zoo fit in with curriculum requirements that have formal learning goals. Interpretation, however, differs from education in that it involves a volunteer audience in an informal learning environment where recreation is the primary motivation. This means that the information must be engaging and entertaining, and it must be relevant to the context in which it is experienced.

The context must make sense to the visitor, which means it must have a consistent look and feel. In the same way that the parts of a story all work together and reinforce the impression of being in another time and place, so must all the components in a physical setting reinforce each other to create a consistent thematic context and set the scene for the important stories that need to be told. Furthermore, in order to be effective, the stories themselves must have a voice that make sense in that context. Graphic materials must look like they belong there, demonstrators must be dressed to suit and the words they use must express a point of view that is relevant to the setting in which it is expressed.

At the Taronga Zoo, the challenge is to redevelop internally consistent thematic zones of experience that figuratively transport visitors to zoogeographic destinations around the world and throughout Australia, by paying careful attention to the design and operation of all possible sensory inputs and activities within each zone.

The Interpretive Master Plan for the Taronga Zoo (See Figure 6), will identify a unified approach to the design of all the elements within each zone that contribute to the visitor learning and entertainment experience. It will also identify the themes that will guide this effort so all sensory elements contribute to the ultimate interpretive goal of the zoo: to raise public awareness about animals, nature, people and their interrelationships.

## 5.2 Nature and People: An Australian View

### 5.2.1 Goals and Outcomes

The primary interpretive goal for the Taronga Zoo is:

To provide the zoo visitor with opportunities develop a well-rounded understanding of the nature of life in Australia through direct observation, interaction and comparison with life from other regions

The primary outcome for the Zoo visitor is:

To come to a deeper understanding and appreciation of the nature of all life on Earth.

### 5.2.2 The Approach

Visitors will be engaged through a series of distinct immersive landscape experiences that are organized to take advantage of the public's general understanding of the physical layout of the Earth and the distribution of plants, animals and people across its face. These zoogeographic regions have been selected, not only for practical considerations of animal and plant availability and suitability to the site, but also because each of the regions has a special relationship to the story of Australia and its unique life forms. These regions include:

Australasia  
South America  
SE Asia  
Africa

Within each of these broad zoogeographic regions, visitors will encounter representations of a number of the unique biomes that display bioclimatic characteristics that are similar to those found in Australia. Such comparisons will provide a touchstone for better understanding the experience of Australia while, in turn, deepening the understanding of the interconnected nature of all life on Earth.

These immersive experiences will not be detached observations of wild nature, but will portray the combined story of nature and people, exposing visitors to the long and continuing history of humans on the land.

Separate from these immersion areas will be Taronga Zoo which will provide for visitors a recreational park environment for simple relaxation and enjoyment as well as a space from which all thematic areas are accessed.

### 5.2.3 The Themes

Interpretation throughout the Taronga Zoo will be based upon themes that comprehensively encourage visitor understanding of all of the interconnected facets of nature and people. These themes will unify the interpretation across the geographic regions, and several areas, e.g. Serpentina, that stray a short distance from the immersion approach.

The themes are:

#### 1. THE MANY AUSTRALIAS

About the only safe, simple generalization that is true about Australia is that it is an island. Its geological history is complex, as are its natural regions of desert, rainforest, temperate forest, marine environment and many others. Each of these landscapes has shaped the wildlife to its needs and has provided new challenges for the humans that call it home.

Biomes:

Wet Sclerophyll Forest  
Wetlands  
Woodlands  
Grasslands  
Mallee  
Semiarid  
Coast

#### 2. WORLDS APART AND CONNECTED

There are other rainforests, deserts, and highlands in the world. They share certain broad similarities but each is unique in its biodiversity and ecological relationships. On the African Savannah, kangaroos are replaced by gazelles and wildebeests; in Amazonia, anacondas prey on careless visitors to the river in imitation of our saltwater crocodiles.

Zoogeographic Biomes:

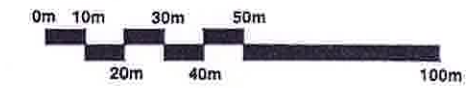
South American Rainforest  
African Tropical Rainforest  
African Grassland  
Asian Tropical Forest  
Central Asian Highlands

**TARONGA ZOO**  
 ZOOLOGICAL PARKS BOARD OF NEW SOUTH WALES

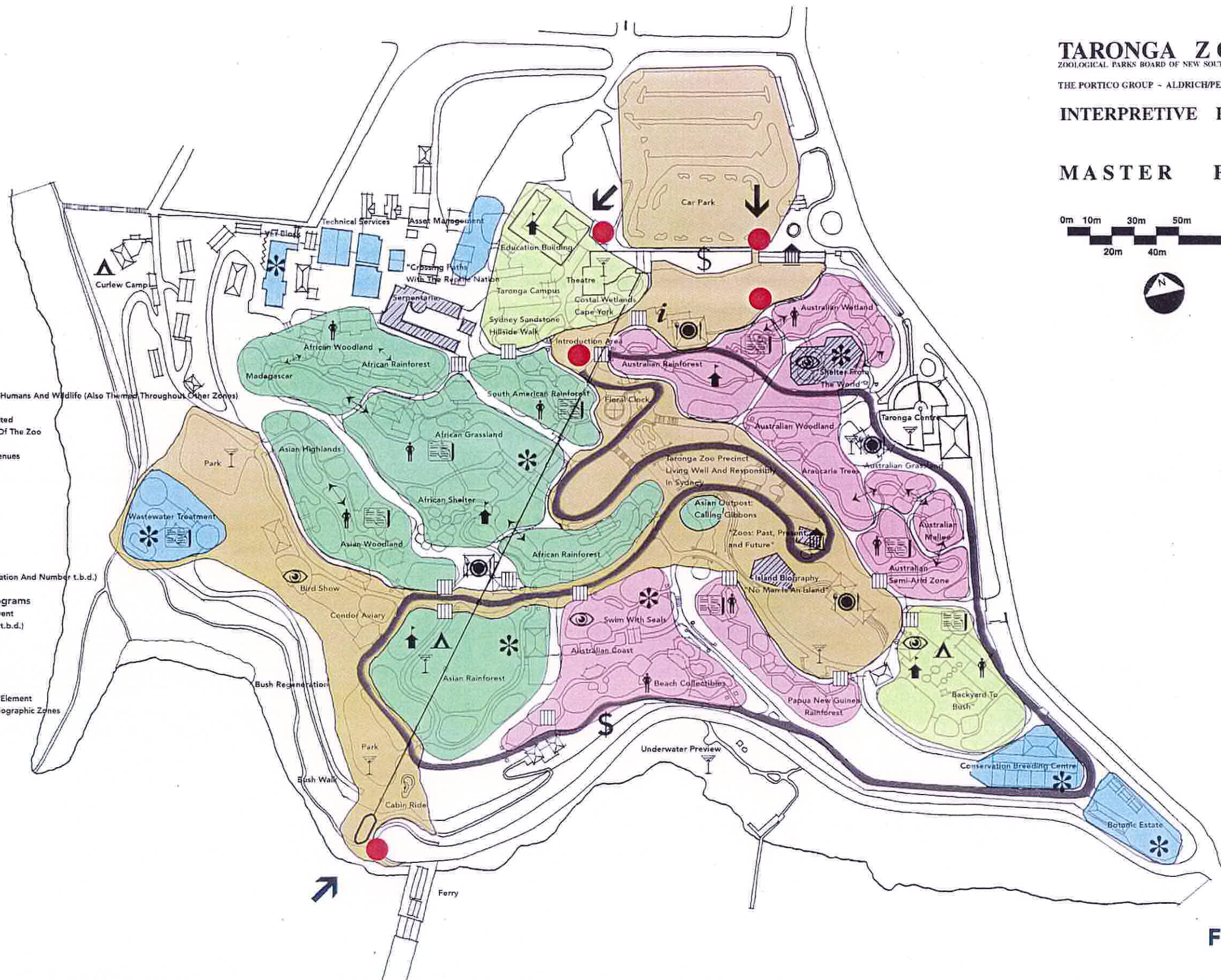
THE PORTICO GROUP - ALDRICH/PEARS ASSOCIATES

**INTERPRETIVE PLAN**

**MASTER PLAN**



- Themes**
- Intermingled Destinies Of Humans And Wildlife (Also Themed Throughout Other Zones)
  - Many Australias
  - Worlds Apart And Connected
  - Caregiving And The Role Of The Zoo
  - Taronga Park
  - Subthemes And Special Venues
- Interpretive Delivery**
- ▨ Interpretive Centre
  - Tram
  - Introductory Site Element
  - ⬆ Learning Spot
  - ⌘ Thematic Architecture
  - ℹ Information
  - 🔊 Cabin Ride Audio
  - ⌘ Interpretive Graphics (Location And Number t.b.d.)
- Interpretive Events/Programs**
- ⊕ Interpretive Attraction/Event
  - † Demonstrations (Location t.b.d.)
  - ▲ Camping
  - ✳ Behind The Scenes
- Gateways**
- ➔ Zoo Entry
  - ≡ Thematic Gateway & Site Element
  - ⬆ Transition Between Biogeographic Zones
- Services**
- 🎪 Special Event Venue
  - 🍽 Food Service
  - 🛍 Retail



**FIGURE 6**

### 3. INTERMINGLED DESTINIES OF HUMANS AND WILDLIFE

Humans have depended on the resources of these regions for, in some cases, a very long time. No matter how different the landscape, from desert to rainforest, humans have lived there and continue to do so. In addition to food and clothing, we find in wildlife a kind of kindred life form that travels with us along many of the same paths. As we have come to dominate the planet, our responsibility for these other living creatures increases. This demonstrates wisdom as well as compassion; there is little doubt that whatever befalls them will ultimately befall us. This is a ubiquitous theme that applies to all of the biogeographic regions of the world.

Venue: The Education Area and various biogeographic regions

Special Venues: The Australian Farm

### 4. SUBTHEMES AND SPECIAL VENUES:

#### 4.1 Zoos Past, Present & Future: The Heart of the Zoo

The history of the development of the Taronga Zoo is one of change. It has matured from a zoological park with animals as decor into an institution advocating and assisting worldwide efforts at habitat conservation and species protection. While the heritage of the Taronga reflects the growth and history of Sydney itself, the future of the zoo is inevitably connected with international efforts to build a more sustainable future for all forms of life. Zoos Past & Future will look at the ways zoos have evolved in the past and the changes and permutations that have been a result of different philosophies on animal keeping and wildlife management. This will be done with an eye to their current role of conserving genetic diversity and breeding stocks through to all of the possibilities for future roles. They already, in a way, are a human response to the issues raised by island biogeography theory. They are diverse islands of life that can contact the other islands and exchange or augment wildlife populations.

Special Venue: Elephant Pavilion Interpretive Centre.

#### 4.2 Crossing Paths with the Reptile Nation

Reptiles are an extremely diverse group occupying every continent except Antarctica. In Australia, the global reptile hotspot, there is the greatest biodiversity of reptiles in the

world. Where we adapt the surroundings to meet our needs by building structures, etc., reptiles have adapted through evolution into different species to meet the conditions available in the environment.

Special Venue: Serpentaria

#### 4.3 You're Bugging Me!

The incredible world of insects will be investigated along with their relationship to for human quality of life as well as wildlife and plants.

Special Venue: Invertebrate Interpretive Centre

#### 4.4 Shelter from Our World

The nocturnal story addresses the creatures of darkness. From the human perspective, interpretation can remind visitors that this is a niche that we have left to other species. In some cases we have driven species to adapt their lifestyle to darkness in response to our activities and persecution.

Special Venue: The Nocturnal House

### 5.3 Interpretive Opportunities

#### 5.3.1 General Interpretation

Interpretation can be provided through a wide range of effective and valuable options. Zoos usually tend to rely on simple didactic graphic panels or assume that the display of animals in their context will convey meaning through simple immersion. However, many other opportunities exist to use both existing features and new media to communicate a wide range of messages. Existing buildings and icons provide interpretive opportunities in the form of historical style and meaning to convey history and cultural context. Interactive exhibits, audiovisual programs, and graphics can convey ideas and principles. Sculpture and simple tactile access to live creatures can create emotional bonds. The exciting opportunity at the Taronga Zoo is to provide another level of interpretation of the human/wildlife story through the use of this wider range of communication mechanisms coordinated with the design of immersive environments, cultural icons and architecture to provide a comprehensive interpretive experience.

#### 5.3.2 Personal Interpretation

Personal interpretation can be used in a variety of ways.

The human touch produces a very high quality of experience for the visitor and can be structured in several ways:

Formal programs can provide information to visitors in a highly entertaining way, often including personal or close contact with animals e.g. marine mammal show, bird show, presentations in the theatre, etc.

Demonstrations can take place at regular times and locations, or spontaneously as a guide wanders the site with props or live animals.

Informal Interpretation often takes place via contacts between visitors and staff who are stationed at prime locations e.g. interpretive buildings or centres.

Educational Programs are, generally, scheduled events in which a guide meets the class and tours them through the site or through particular portions of the site that are of specific application to the class. Educational programs can also take place as non-personal events with the schools being provided with self-guiding materials.

### 5.4 Key Interpretive Delivery Methods

A number of symbols for interpretive features are used on the Site Plan and the Delivery Matrix to identify particular key types of interpretive mechanisms that will be used to convey the various themes and messages throughout the site.

#### † Interpretive Demo Areas:

Areas along pathways through the zoogeographic themed areas which provide space for an interpreter or docent to gather a small audience for impromptu short programs. Interpreters might use a "discovery cart"—a small enclosed wheeled cart, optionally with a canopy—that provides the interpreter with storage space for props and a table top for displaying items of interest to the visitor. Such props might include mounted specimens, photos, artifacts, etc.



#### † Learning Spots:

Themed, covered areas that provide enough room for a class of students and adults to gather for education programs. They should be open or semi-open structures that stylistically reflect the zoogeographical area they are in. Some permanent exhibits or graphics might be located in these areas for the benefit of visitors who might wander in. The design of the Learning Spots should reflect the cultural traditions of the region and can serve after hours as venues for special events.



Learning Spot structures and other forms of human construction of varying sizes should reflect the cultural relationship of people to the landscape to remind visitors that we are—and have been for a very long time—part of nature...part of these landscapes. The structures should be unique and diverse and not tied to any particular era. At one

location, for example, the structure might replicate an aboriginal dwelling;

At another it might be a research station; at still another it might be a shepherd's cabin or tent.

#### ⌘ ↑ Thematic Gateways and Transitions:

Gateways between zoo areas to reinforce the sense of transition from the Heart of the zoo into a zoogeographic immersion area or between individual biomes within those areas. These will include informational and interpretive graphics, but will also include some substantial thematic elements that introduce the area that lies ahead. Such elements might include vegetation, wildlife models or landscape features of the area.



#### ○ Introductory Site Elements:

Interpretive elements at major entry points such as models, icons, sculptures and graphics that reflect the thematic approach to the zoo experience. Some may be serendipitous expressions of the landscape and the elements of the earth and a preview of what is to come.

 Interpretive Graphics:

Interpretive panels are defined as separate from wayfinding or simple identification signs. However, all graphic materials should belong to the same style family. For the interpretive graphics, concepts are needed that arrest attention and engage the visitor in the ideas central to each thematic zone.




 Interpretive Events:

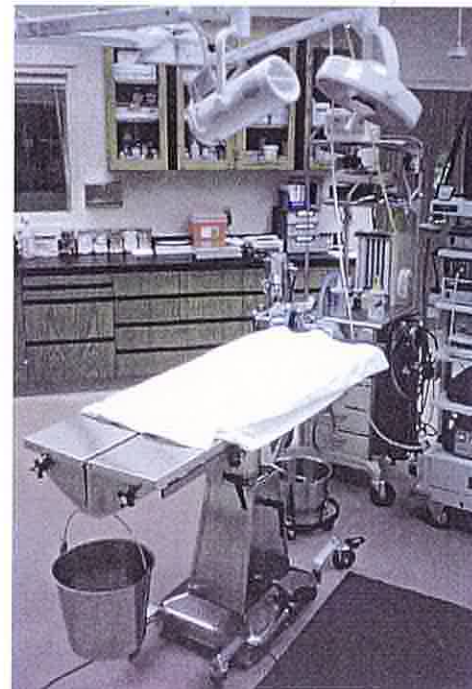
Publicized events that take place on a fixed schedule at a fixed location. Such events include the bird show on a daily basis, or a week-long event focusing on environmental issues that includes a variety of special events and displays at various theatre locations throughout the zoo.

 Special Event Venues:

Areas specifically intended for use by special groups on a fee-for-service basis. Such events might include overnight stays, workshops, parties, etc.

 Behind the Scenes:

Areas that interpret the zoo's operations and provide inside into a special category of human-wildlife interactions. Central to this experience will be the theme of animal care-giving and how the zoo executes its responsibility.



## 5.5 Representative Visitor Experience

### The Asian Rainforest Area

The sight and smell of the rich vegetation attract the family even as they approach the Asian Rainforest Area. Towering bamboo frames a vine-draped portal which frames the pathway. Even the children slow down as they enter the forest; distracted by the strange calls of birds nearby, they try to locate the singers. As they proceed further along, the dense bamboo is replaced by the large buttressed trunks of rainforest trees, crowding in along the pathway. When they can no longer contain themselves, the children dash ahead of their parents. As Mom and Dad round the next corner the kids are peering at them from inside one of a series of traditional structures of what appears to be a village. It is a large but airy wooden shelter with walls that do not reach the ground and sliding partitions that can close off the doorways or windows. In the distance, they can see people working with the elephants at the edge of the village cluster.

This is the Rainforest Learning Spot that the children visited during their school term. They regale their parents with accounts of the fun they had. In one portion of the room is a table with a variety of plants on it. Each is labeled as to its uses by the people of the rainforest. Dad doesn't have a chance to read the panels because his son is explaining their importance to him already. Mom has been led to a map pinned on the shelter wall that shows the extent of the rainforest today and 100 years ago. The daughter is already tugging on her hand to lead her to the next area.

Outside of the Learning Spot, the family is presented with a choice. The path leads on, but nearby is a sturdy series of steps that rise into the treetops. The kids are adamant that everyone must go up. They ascend the steps to find themselves at the start of a narrow bridge through the forest. The kids immediately rush to the centre of the bridge. Mom, at first hesitantly, then enthusiastically, joins them. Dad returns down the steps and heads along the path so that he can get a good photograph of the family 30 feet in the air. Panels identify the incredible diversity of the rainforest canopy.

An exciting time is spent exploring until Dad, who has climbed the steps at the other end of the bridge, calls them to join him. At first no one can see what he has discovered and he has to encourage patience. Then, above a small tree nearby, a gray, wrinkly hose rises like a periscope, then withdraws. It is their first

view of an Asian elephant- and the kids want to see more.

Dashing down the steps, they rush the short distance to the ground level view of Elephants which, with its carefully concealed barriers, causes a brief flash of concern in the parents' minds that elephants could walk right out! An interpretive panel nearby explains the plight of the Asian elephant while a nearby one introduces the zoo's elephants by name. The kids already know the elephants' names and regale their parents with stories of their different personalities that they had learned from an elephant keeper who spoke to them during their earlier school visit.

As the family moves along the path for another view, they find themselves in an opening near the elephants that is covered for shelter from the elements. Under the shelter, a woman is showing other visitors artifacts from the rainforest: a small piece of tusk, some rainforest invertebrates including incredibly beautiful butterflies, even some nuts from the forest that she lets the family sample.

Beyond the elephants the trail again forks. The trail itself winds around the edge of a pond with strangely coloured wading birds and turtle sunning themselves on the floating logs. The family chooses another adventure, stepping out on the log bridge that crosses the pond a few feet above the water. It looks as if it might be slippery but it is safe and secure. The family pauses again at mid-crossing to read the panels that further explore the incredible diversity of habitats and species in the rainforest.

On the other side, the path enters a small, traditional village with huts and shelters. Jungle fowl wander through the village. Panels and small exhibits interpret the long relationship of humans and elephants and the dependence of both species on the rainforest. Many of the replica artifacts are touchable and the children explain their use. They are familiar with them because this is where they camped during their school visit; each points out the hut in which they stayed.

When they at last leave the village, and just before they emerge from the rainforest, they are drawn to a small wayfinding sign that reads "Caring for Elephants, Caring for the Forest". The sign beckons them on to a special behind the scenes experience in the elephant area where they find out how the Taronga Zoo cares for its elephants and ensures their well-being. They watch a video on elephant care and even have a chance to

sit on a replica of an elephant's back.

Finally, they move back into the zoo. After their adventure in the Asian rainforest, they are excited and, the children point out, hungry. What's next?

The purpose of the delivery matrix is to show by what method and where each main theme will be delivered in each physical area of the Zoo. In some cases all themes are dealt with in a particular location, such as the

education building. In others, such as the Lower Zoo Arrival Court, there is no thematic focus, but an Introductory Site Element will be provided. It is not the intention to exclude any themes, messages or media from

any particular area, rather it is to show where it makes sense to emphasize particular themes and which delivery methods will likely produce the best results.

### Matrix for Interpretation and Information Delivery - Taronga Zoo

Themes and Information	Nature and People: A View from Australia				Special events	Zoo heritage	Delivery Methods
	Introduction	Many Australias	Worlds apart and connected	The intermingled destinies of humans and wildlife			
Previsit Communication							
Upper Arrival							
Entry to Carpark							
Car Park							
Upper Zoo Arrival Court							
Education Building							
Lower Arrival							
Ferry							
Ferry Landing							
Lower Zoo Arrival Court							
Cabin Ride Entry Walk							
Ticketing for Ride							
People Movers							
Tram							
Cabin Ride							
The 1916 Portal							
Taronga Plaza							
Overview							
Gift Shop							

- Interpretive Graphics
- Audio
- Demonstration
- Introductory Site Element
- Audio Visual
- Print Material
- Special Event Venue
- Thematic Planting
- Thematic Architecture
- Thematic Gateway & Site Element
- Camping
- Interactive Exhibit
- Interpretive Event
- Learning Spot
- Behind the Scenes
- Transition Between Zones

The purpose of the delivery matrix is to show by what method and where each main theme will be delivered in each physical area of the Zoo. In some cases all themes are dealt with in a particular location, such as the

education building. In others, such as the Lower Zoo Arrival Court, there is no thematic focus, but an Introductory Site Element will be provided. It is not the intention to exclude any themes, messages or media from

any particular area, rather it is to show where it makes sense to emphasize particular themes and which delivery methods will likely produce the best results.

Themes and Information	Nature and People: A View from Australia				Special events	Zoo heritage
	Introduction	Many Australias	Worlds apart and connected	The intermingled destinies of humans and wildlife		
Ticketing						
Restaurants						
Information						
Theatres						
Zoo Entrance Gateway						
Point of View Plaza						
Heritage Walk						
Floral Clock						
Walkway						
Heart of the Zoo						
Conservation Fountain						
Islands Interpretive Centre						
Zoos: Past, Present & Future						
Biogeographic Zones						
Australia						
Sydney Sandstone Hillside Walk						
Coastal Wetlands Cape York						
Rainforest						
Wetlands						
Grasslands						

**Delivery Methods**

- Interpretive Graphics
- Audio
- Demonstration
- Introductory Site Element
- Audio Visual
- Print Material
- Special Event Venue
- Thematic Planting
- Thematic Architecture
- Thematic Gateway & Site Element
- Cantina
- Interactive Exhibit
- Interpretive Event
- Learning Spot
- Behind the Scenes
- Transition Between Zones

The purpose of the delivery matrix is to show by what method and where each main theme will be delivered in each physical area of the Zoo. In some cases all themes are dealt with in a particular location, such as the

education building. In others, such as the Lower Zoo Arrival Court, there is no thematic focus, but an Introductory Site Element will be provided. It is not the intention to exclude any themes, messages or media from

any particular area, rather it is to show where it makes sense to emphasize particular themes and which delivery methods will likely produce the best results.

Themes and Information	Nature and People: A View from Australia				Special events	Zoo heritage	Delivery Methods
	Introduction	Many Australias	Worlds apart and connected	The intermingled destinies of humans and wildlife			
Semi-arid							
Woodlands							
Mallee							
Coast							
Backyard to Bush Children's Centre							
Papua New Guinea							
South America							
Rainforest							
Africa							
Tropical Rainforest							
Grassland							
Rainforest							
Madagascar							
Asia							
Tropical Woodland							
Central Highlands							
Rainforest							
Other Special Structures							
Education Centre							
Serpentaria "Crossing Paths ..."							
Nocturnal House "Shelter ..."							

The purpose of the delivery matrix is to show by what method and where each main theme will be delivered in each physical area of the Zoo. In some cases all themes are dealt with in a particular location, such as the

education building. In others, such as the Lower Zoo Arrival Court, there is no thematic focus, but an Introductory Site Element will be provided. It is not the intention to exclude any themes, messages or media from

any particular area, rather it is to show where it makes sense to emphasize particular themes and which delivery methods will likely produce the best results.

Themes and Information	Nature and People: A View from Australia				Special events	Zoo heritage	Delivery Methods
	Introduction	Many Australias	Worlds apart and connected	The intermingled destinies of humans and wildlife			
Invertebrate Interpretive Centre	* (Food Preparation)						Interpretive Graphics
Australian Mammal Breeding Centre	*						Audio
Underwater preview @ Australian Coast							Demonstration
Condor Aviary							Introductory Site Element
Free Flight Bird Show							Audio Visual
Foreshore Bushwalk							Print Material
Botanic Estate	*						Special Event Venue
Vet Block	*						Thematic Planting

- Interpretive Graphics
- Audio
- Demonstration
- Introductory Site Element
- Audio Visual
- Print Material
- Special Event Venue
- Thematic Planting
- Thematic Architecture
- Thematic Gateway & Site Element
- Camping
- Interactive Exhibit
- Interpretive Event
- Learning Spot
- Behind the Scenes
- Transition Between Zones

## 6.0 Implementation

Establishing a vision for the future is simply the first step in implementing this Master Plan. As the Taronga Zoo proceeds forward, there are many aspects of its growth which will need to be balanced and reassessed as each subsequent step is taken, among them:

- o the Collection Plan
- o current Conservation Goals
- o current Education Goals
- o the current focus of public interests
- o Staff and Board support.
- o space appropriate for development
- o available capital
- o available infrastructure

The influence of each of these aspects, will evolve over the years as the institution grows. Our challenge is to negotiate these changes while insuring a consistency of quality and a fidelity to the goals expressed in this Master Plan.

### 6.1 Capital Construction

This Master Plan includes a projection of the costs of capital construction which will be required to make every aspect of the Taronga Zoo a 'world class facility'. These cost projections are based upon assumptions of comparable detail and quality which will achieve this goal.

two hundred twenty-three million dollar estimated cost of redevelopment is the pace at which redevelopment will take place. The Zoo has invested in capital improvements to its physical assets at varying levels over the years. These investments have averaged six to eight million dollars per year during the Zoo's most active periods of building. At this rate of expenditure the complete renewal of its facilities will require approximately thirty years.

Because the average life-span of a successful exhibit and its associated infrastructure is about twenty years, this rate of investment will not slow the gradual deterioration of the Zoo's physical assets. Deteriorating assets quickly lead to decreasing visitor satisfaction and lower repeat attendance, impairing the Zoo's ability to achieve its stated goals in conservation and education.

A more appropriate rate of renewal would be to completely redevelop the Zoo's assets over a period of ten years: spending an average of twenty-two million dollars per year. This rate of renewal will allow the present backlog of substandard exhibits and deteriorating infrastructure to be reduced to nil well before the first of the new capital improvements reach the end of their effective service life.

Capital investment can then be reduced to a sustaining level of approximately ten million dollars per year.

None of the figures in this section has been adjusted for inflation.

### 6.2 Phasing Approach

A number of competing needs will be balanced in selecting a sequence for the Zoo's redevelopment:

- o provide new exhibits which maintain visitor interest and spark attendance.
- o improve public precincts and visitor amenities which leads directly to increased visitor satisfaction.
- o establish an appropriate physical framework for retail operations - food services and gifts. These are key not only to visitor satisfaction but an essential element in funding continuing operations.
- o upgrade utility services and support facilities.

- o develop the specialized facilities which allow the Zoo to implement its goals in public education and in-situ and ex-situ conservation.
- o 'keep the zoo open', or maintain the zoo as a visitor-friendly destination during phases of construction.

The schedule of development which follows attempts to balance these competing needs while spreading capital investment relatively evenly over a ten year period. Many changing factors will affect an appropriate sequence of development and the one proposed below should be reassessed every two to three years during the Master Plan Updates proposed under 6.6 Next Steps in Planning which follows.

Years One through Three:

- o Asian Tropical Rainforest
- o Entry Precinct
- o Backyard to Bush Children's Centre
- o Utilities, Services, and Support Facilities

Years Three through Five:

- o Australian Coast/Working with Animals
- o Australia, Phase One
- o Heart of the Zoo
- o Utilities, Services, and Support Facilities

Years Five through Seven:

- o African Tropical Savanna
- o Australia, Phase Two
- o Temporary Exhibition Pavilion
- o Utilities, Services, and Support Facilities

Years Seven through Nine:

- o Asian Highlands
- o Education Building
- o Invertebrate Interpretive Centre
- o Utilities, Services, and Support Facilities

Years Eight through Ten:

- o African Tropical Rainforest
- o South America
- o Papua New Guinea
- o Utilities, Services, and Support Facilities

### 6.3 Continuing Operations

This Master Plan focuses on the physical redevelopment of the Taronga Zoo. Perhaps more important however are the people of the Taronga Zoo: the staff who interact with visitors and shape their experience. Ticket sellers, food service staff, animal keepers, botanic estate staff, show presenters, and volunteers: all play a vital role in each visitor's experience.

It is imperative that the Zoo plan for appropriate staffing levels which support the highest quality experience for visitors. Staff training and quality assurance should be a part of the planning process as each exhibit or visitor amenity is designed and developed.

### 6.4 Regulatory Requirements

The Zoo operates under two types of regulatory requirements, those which affect its internal operations - animal welfare requirements, visitor safety, accessibility, building codes, etc. - and those which govern its relationships and obligations to the jurisdictions within which it operates - Mosman, Sydney, and New South Wales. The important guidelines of SEPP 56 fall within this latter group of regulatory requirements.

This Master Plan assumes implicitly that development will comply with the types of internal regulatory requirements mentioned above. These are, in any event, generally more detailed in effect than the scope of this planning document explores. They will be dealt with more directly as the Next Steps in Planning are undertaken.

However, several key aspects of the Zoo's relationships to the jurisdictions within which it operates deserve mention here.

#### 1. Zoo Attendance:

This Master Plan envisions a slow controlled growth in attendance as the city grows. No increase in on or off-site parking for automobiles is planned. Instead, additional visitors will arrive via Sydney Ferries, and combinations of City Rail and other types of public transport. Additionally, the zoo will be working to optimize use of its physical investment through spreading additional visitation to non-peak periods.

#### 2. Views from Sydney Harbour:

As has been described earlier in this document, the proposed Master Plan is based upon the 'immersion' of visitors within the natural habitats of the animals being presented and de-emphasizes buildings and structures within the exhibit precincts. These thematic precincts and the habitats they represent have been planned and sited to work sympathetically with the potential natural vegetation of the Zoo's sometimes steeply sloping site with its shelves and palisades of exposed Sydney sandstone and often mature vegetation.

#### 3. Natural Heritage:

This Master Plan supports the continued return of the Sydney Harbour foreshore to its original native plant communities as proposed in the 1989 Development Plan. Public access will be provided to the Sirius Cove, Whiting Beach, and Athol Bay foreshores.

#### 4. Cultural Heritage:

The Public Precincts proposed in this Master Plan will honor the cultural heritage of the Taronga Zoo. Key heritage buildings like the Indian Elephant Temple and Upper Entry Building will be given renewed prominence and assigned relevant functions which support this continued focus.

As importantly, the heritage landscapes and heritage landscape features of the Zoo site will be incorporated in the Heart of the Zoo and the Heritage Walk. These include elements like the stone stairs, seats, and rendered concrete balustrades which form key features along much of the proposed Heritage Walk.

The Floral Clock will be relocated to a position adjacent to the Heritage Walk which restores its former prominence. The Seal Pool will have key aspects of its original design restored in its new roles as 'The Cascades', an interactive water feature for play by children and adults alike.

### 6.5 Funding Strategies

The development of a strategic funding plan for the improvements suggested herein is beyond the scope of this Master Plan. However, this key task will follow directly from the

analysis of potential Return on Investment which is one of the *Next Steps in Planning*: see 6.6.2 Return on Investment which follows.

A market analysis and feasibility analysis will evaluate the proposed capital costs, develop post-construction revenue and operating assumptions, establish a 10-year cash flow projection and a summary of total capital requirements, and provide an analysis of debt financing prospects. The study should also include a detailed assessment of the potential for increased returns from retail and food service sales, the potential for increases in attendance - especially at off-peak periods and through group sales - and an evaluation of other sources of revenue from grants, contributions, bequests, membership dues, promotions, special events, and programmes.

The results of this study will provide the basis for the development of an appropriate funding strategy. The funding study will evaluate the potential funds available from both the public and private sectors and make recommendations for undertaking a capital campaign.

### 6.6 Next Steps in Planning

Undertaking the following actions is key to the successful implementation of the master plan.

#### 1. Design Guidelines:

These guidelines will capture, in greater detail, the broad planning and design principles which underlie this Master Plan's vision for Taronga's future. They will take a tactical approach to asset development, set in a flexible framework which encourages and even inspires innovative design. The guidelines should strike a balance between presenting philosophic goals and specific detail.

#### 2. Return on Investment:

As discussed above, a market analysis, economic feasibility analysis, and funding study will evaluate the means available for master plan implementation and provide an appropriate plan of action.

3. Heritage Conservation Plan:

Prepare a Heritage Conservation Plan for those heritage structures and spaces which have been identified in this master plan as important to preserve. Document the means by which they will be integrated into the fabric of the Zoo and made relevant to its future.

4. Guidelines for Sustainable Development:

Prepare a strategy for insuring that the capital development and continuing operations of the Zoo are implemented in a manner consistent with the Zoo's objectives for the conservation of wildlife and natural habitats world-wide.

5. Mini Master Plans:

Prepare a detailed conceptual plan for each of the Thematic Exhibit Precincts, the Public Precinct, and the Staff and Service Precincts. These plans will validate and refine the concepts established in the master plan and provide a framework for the development of individual exhibits or groups of exhibits, and other asset improvements in public and service precincts.

6. Update the Master Plan:

And finally, at intervals of two to three years, review and reassess the assumptions which underlie the vision of the future which this master plan expresses, and make the resulting appropriate modifications to the Zoo's Physical Master Plan.

Barring major changes in the Zoo's objectives and direction, this should be a concentrated, charette style planning exercise: measured in weeks, not months. Documentation should be limited to a simple update of this Master Plan, with a focus on staff involvement in the Master Plan review process.

## 7.0 Appendix

Taronga Zoo Master Plan Exhibit Brief and Capital Construction Costs	10. November 1999
Master Plan - Summary:	
A. Australia:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$15,383,129
2.00 Sydney Sandstone	\$251,900
3.00 Cape York	\$871,750
4.00 Wet Sclerophyll Forest	\$2,198,625
5.00 Wetlands:	\$2,434,218
6.00 Nocturnal:	\$8,160,625
7.00 Mallee	\$1,126,400
8.00 Woodlands	\$2,609,338
9.00 Grasslands	\$650,073
10.00 Semi-arid	\$1,562,908
Australia:	<b>\$35,248,964</b>
B. Backyard to Bush Children's Centre:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$4,010,518
2.00 House	\$825,000
3.00 Farm	\$1,758,625
4.00 Bush	\$1,088,313
Backyard to Bush Children's Centre:	<b>\$7,682,455</b>
C. Australian Coast / Working with Animals:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$11,000,000
2.00 Exhibits	\$16,500,000
Australian Coast / Working with Animals:	<b>\$27,500,000</b>
D. South America:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$3,798,895
2.00 Tropical Rainforest	\$1,714,041
3.00 Serpenteria (remodel)	\$2,247,850
South America:	<b>\$7,760,785</b>
E. Africa:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$9,982,431
2.00 Tropical Savanna:	\$6,367,522
3.00 Tropical Woodland	\$1,463,963
4.00 Tropical Rainforest	\$5,686,347
Africa:	<b>\$23,500,263</b>
F. Asia:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$18,522,419
2.00 Tropical Rainforest	\$20,625,000
3.00 Highlands	\$5,074,266
Asia:	<b>\$44,221,684</b>
G. Papua New Guinea:	
1.00 General Site Work, Public Spaces, and Interpretation:	\$2,583,158
2.00 Exhibits	\$2,316,078
Papua New Guinea:	<b>\$4,899,235</b>

Taronga Zoo Master Plan Exhibit Brief and Capital Construction Costs	10. November 1999
H. Entry Redevelopment:	
1.00 General Site Work, Public Spaces, and Orientation/Interpretation:	\$13,794,633
2.00 Entry Retail Shop	\$1,990,313
3.00 Entry Building Renovation	\$847,000
4.00 Restaurant	\$1,663,750
5.00 Information Kiosk	\$55,688
6.00 Toilets	\$618,750
7.00 Education Building	\$4,272,813
8.00 Temporary Exhibition Pavilion	\$2,994,063
Entry Redevelopment:	<b>\$26,237,008</b>
I. Heart of the Zoo	
1.00 General Site Work, Public Spaces, and Orientation/Interpretation:	\$19,135,188
2.00 Zoo Past, Present, and Future	\$1,980,000
3.00 Invertebrate Interpretive Centre	\$2,578,125
4.00 Retail	\$1,670,625
5.00 Restaurants	\$3,327,500
6.00 Information Kiosk	\$55,688
7.00 Toilets	\$4,331,250
8.00 Bird Show and Condor Aviary	\$206,250
Heart of the Zoo:	<b>\$33,284,625</b>
J. Support Areas:	
1.00 General Site Work:	\$3,270,678
2.00 Conservation Breeding Centre	\$3,342,625
3.00 Staff Facilities	\$3,474,625
4.00 Botanic Estate	\$1,033,312
5.00 Veterinary Block	\$1,684,375
Support Areas:	<b>\$12,805,615</b>
Total Redevelopment Costs:	<b>\$223,140,634</b>

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs  
 A. Australia

10. November 1999

22,700 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
1.00 General Site Work, Public Spaces, and Interpretation:				
1 Site Demolition	22,700 m <sup>2</sup>		⊙ \$5	\$113,500
2 Interpretive Media	10 %		⊙ \$35,250,000	\$3,525,000
3 Main Visitor Pathway: base, surfacing, visitor barrier, storm drainage	1375 m <sup>2</sup>		⊙ \$300	\$412,500
4 Buffer Plantings: soil preparation and planting	9732 m <sup>2</sup>		⊙ \$120	\$1,167,840
5 Earthwork: balanced cut and fill	5675 m <sup>2</sup>		⊙ \$50	\$283,750
6 Rock Excavation: allowance	1135 m <sup>2</sup>		⊙ \$300	\$340,500
7 Irrigation: dense planting	9732 m <sup>2</sup>		⊙ \$20	\$194,640
8 Service Road: base, surfacing, storm drainage	1000 m <sup>2</sup>		⊙ \$50	\$50,000
9 Utility Services: water, power, sewers	15 %		⊙ \$34,000,000	\$5,100,000
				subtotal: \$11,187,730

2.00 Sydney Sandstone

2.01 Sydney Sandstone Bushwalk: walk-through

the characteristic flora of the Sydney sandstone

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and irrigation	880 m <sup>2</sup>		⊙ \$140	\$123,200
2 Exhibit Pathway: boardwalk and railings	120 m <sup>2</sup>		⊙ \$500	\$60,000

1000 m<sup>2</sup> exhibit area

Sydney Sandstone Bushwalk subtotal: \$183,200

3.00 Cape York

3.01 Cape York Exhibit: (remodel existing Amazonia)

Saltwater Crocodile  
 Tree Kangaroo  
 Black-necked Stork

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and irrigation	50 m <sup>2</sup>		⊙ \$140	\$7,000
2 Exhibit Barriers: 2m high shotcrete walls	80 m <sup>2</sup>		⊙ \$400	\$32,000
3 Pool: shotcrete, 1.5m deep	100 m <sup>2</sup>	surface area		
	150 m <sup>2</sup>		⊙ \$300	\$45,000
4 Life Support Systems - medium: 26-150 cubic metres per hour filtered	150 m <sup>3</sup>		⊙ \$2,000	\$300,000
5 Night House, simple: concrete masonry, hidden	40 m <sup>2</sup>		⊙ \$1,500	\$60,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>		⊙ \$500	\$10,000
7 Viewing Shelter: wood &/or concrete structure w/ roof	50 m <sup>2</sup>		⊙ \$1,200	\$60,000
8 Glazing: (48 mm thick laminated tempered glass)	30 m <sup>2</sup>		⊙ \$3,500	\$105,000
9 Exhibit Furnishings: down logs, etc.	1 LS		⊙ \$15,000	\$15,000

150 m<sup>2</sup> exhibit area  
 40 m<sup>2</sup> night house

Cape York Exhibit subtotal: \$634,000

4.00 Wet Sclerophyll Rainforest

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

10. November 1999

4.01 Glider/Parma Wallaby Exhibit: walk-through

Yellow Bellied Glider (Petaurus australis)  
 Grey Glider  
 Parma Wallaby (Macropus parma)  
 Short-beaked Echidna (Tachyglossus)  
 Common Ringtail Possum (Pseudocheirus peregrinus)  
 Long-nosed Potoroo (Potorous tridactylus)

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and irrigation	285 m <sup>2</sup>		⊙ \$140	\$39,900
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	40 m <sup>2</sup>		⊙ \$200	\$8,000
3 Exhibit Barriers: 5m high wire mesh enclosure	750 m <sup>2</sup>		⊙ \$300	\$225,000
4 Pool: shotcrete, 0.5m deep	15 m <sup>2</sup>		⊙ \$300	\$4,500
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	4 m <sup>3</sup>		⊙ \$4,000	\$15,000
6 Night House, simple: concrete masonry, hidden	32 m <sup>2</sup>		⊙ \$1,500	\$48,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	32 m <sup>2</sup>		⊙ \$500	\$16,000
8 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>		⊙ \$1,500	\$30,000
9 Exhibit Furnishings: perching, down logs, etc.	1 lsum		⊙ \$20,000	\$20,000

300 m<sup>2</sup> exhibit area  
 32 m<sup>2</sup> night house

Glider/Parma Wallaby Exhibit subtotal: \$406,400

4.02 Flying Fox Exhibit: walk-by

Gray-headed Flying Fox (Pteropus poliocephalus) 1.9.0  
 Short-beaked Echidna (Tachyglossus)  
 bird species?

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and irrigation	450 m <sup>2</sup>		⊙ \$140	\$63,000
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	80 m <sup>2</sup>		⊙ \$200	\$16,000
3 Exhibit Barriers: 5m high wire mesh enclosure	1200 m <sup>2</sup>		⊙ \$300	\$360,000
4 Pool: shotcrete, 0.5m deep	150 m <sup>2</sup>		⊙ \$300	\$45,000
5 Life Support Systems - medium: 26-150 cubic metres per hour filtered	38 m <sup>3</sup>		⊙ \$2,000	\$75,000
6 Night House, simple: concrete masonry, hidden	16 m <sup>2</sup>		⊙ \$1,500	\$24,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>		⊙ \$500	\$5,000
8 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>		⊙ \$1,500	\$30,000
9 Exhibit Furnishings: perching, down logs, etc.	1 lsum		⊙ \$30,000	\$30,000

600 m<sup>2</sup> exhibit area  
 16 m<sup>2</sup> night house

Flying Fox Exhibit subtotal: \$648,000

4.03 Cassowary Exhibit:

Southern Cassowary (Casuaris casuaris) 1.1.0  
 Parma Wallaby (Macropus parma)

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and irrigation	285 m <sup>2</sup>		⊙ \$140	\$39,900
2 Exhibit Barriers: 2m high wire mesh	80 lm		⊙ \$200	\$16,000
3 Pool: shotcrete, 0.5m deep	15 m <sup>2</sup>		⊙ \$300	\$4,500
4 Life Support Systems - small: 0-25 cubic metres per hour filtered	4 m <sup>3</sup>		⊙ \$4,000	\$15,000
5 Night House, simple: concrete masonry, hidden	15 m <sup>2</sup>		⊙ \$1,500	\$22,500
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>		⊙ \$500	\$5,000
7 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>		⊙ \$1,200	\$24,000
8 Glazing: (12 mm thick laminated tempered glass)	15 m <sup>2</sup>		⊙ \$1,500	\$22,500
9 Exhibit Furnishings: perching, down logs, etc.	1 lsum		⊙ \$20,000	\$20,000

300 m<sup>2</sup> exhibit area  
 15 m<sup>2</sup> night house

Cassowary Exhibit subtotal: \$169,400

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4.04 Existing Rainforest Aviary Exhibit: walk-through

900 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
Bower Bird				
Birds of Paradise				
Australian birds: existing collection				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	900 m <sup>2</sup>	⊕ existing		
2 Entry/Exit Vestibules: wood &/or concrete & mesh structures	40 m <sup>2</sup>	⊕ \$1,500		\$60,000
3 Exhibit Barriers: 5m high wire mesh enclosure	400 m <sup>2</sup>	⊕ \$300		\$120,000
4 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕ \$30,000		\$30,000

Existing Rainforest Aviary Exhibit subtotal: **\$210,000**

4.05 Small Aviary Exhibit A: walk-by

50 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
Australian birds				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	40 m <sup>2</sup>	⊕ \$140		\$5,600
2 Exhibit Barriers: 5m high wire mesh enclosure	100 m <sup>2</sup>	⊕ \$300		\$30,000
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕ \$300		\$3,000
4 Life Support Systems - small: 0-25 cubic metres per hour filtered	3 m <sup>3</sup>	⊕ \$4,000		\$10,000
5 Viewing Shelter: wood &/or concrete structure w/ roof	10 m <sup>2</sup>	⊕ \$1,200		\$12,000
6 Glazing: (12 mm thick laminated tempered glass)	8 m <sup>2</sup>	⊕ \$1,500		\$12,000
7 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕ \$10,000		\$10,000

Small Aviary Exhibit A subtotal: **\$82,600**

4.06 Small Aviary Exhibit B: walk-by

50 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
Australian birds				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	40 m <sup>2</sup>	⊕ \$140		\$5,600
2 Exhibit Barriers: 5m high wire mesh enclosure	100 m <sup>2</sup>	⊕ \$300		\$30,000
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕ \$300		\$3,000
4 Life Support Systems - small: 0-25 cubic metres per hour filtered	3 m <sup>3</sup>	⊕ \$4,000		\$10,000
5 Viewing Shelter: wood &/or concrete structure w/ roof	10 m <sup>2</sup>	⊕ \$1,200		\$12,000
6 Glazing: (12 mm thick laminated tempered glass)	8 m <sup>2</sup>	⊕ \$1,500		\$12,000
7 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕ \$10,000		\$10,000

Small Aviary Exhibit B subtotal: **\$82,600**

5.00 Wetlands:

5.01 Pelican, Stork, Swamp Wallaby Exhibit: walk-through

1200 m<sup>2</sup> exhibit area  
40 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
Australian Pelican ( <i>Pelecanus conspicillatus</i> )				
Black-necked Stork ( <i>Ephippiorhynchus asiaticus australis</i> )				
Swamp Wallaby ( <i>Wallabia bicolor</i> )				
Brolga				
Long-necked Tortoise				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	600 m <sup>2</sup>	⊕ \$140		\$84,000
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	120 m <sup>2</sup>	⊕ \$200		\$24,000
3 Exhibit Barriers: 2m high wire mesh	140 lm	⊕ \$200		\$28,000
4 Pool: shotcrete, 0.5m to 1.0m deep	600 m <sup>2</sup>	⊕ \$300		\$180,000
5 Life Support Systems - large: +151 cubic metres per hour filtered	300 m <sup>3</sup>	⊕ \$1,500		\$450,000
6 Night House, simple: concrete masonry, hidden	40 m <sup>2</sup>	⊕ \$1,500		\$60,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	40 m <sup>2</sup>	⊕ \$500		\$20,000
8 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>	⊕ \$1,500		\$30,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕ \$1,200		\$24,000
10 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕ \$30,000		\$30,000

Pelican, Stork, Swamp Wallaby Exhibit subtotal: **\$930,000**

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5.02 Spoonbill Exhibit: walk-through

600 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
Royal Spoonbill				
Cattle Egret ( <i>Ardea ibis coromanda</i> )				
Great Egret ( <i>Ardea alba modesta</i> )				
Parma Wallaby ( <i>Macropus parma</i> )				
Long-necked Tortoise				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	320 m <sup>2</sup>	⊕ \$140		\$44,800
2 Exhibit Pathway: boardwalk and railings	80 m <sup>2</sup>	⊕ \$500		\$40,000
3 Exhibit Barriers: 5m high wire mesh enclosure	1200 m <sup>2</sup>	⊕ \$300		\$360,000
4 Pool: shotcrete, 0.5m to 1m deep	200 m <sup>2</sup>	⊕ \$300		\$60,000
5 Life Support Systems - medium: 26-150 cubic metres per hour filtered	100 m <sup>3</sup>	⊕ \$2,000		\$200,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>	⊕ \$500		\$10,000
7 Entry/Exit Vestibules: wood &/or concrete & mesh structures	30 m <sup>2</sup>	⊕ \$1,500		\$45,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	30 m <sup>2</sup>	⊕ \$1,200		\$36,000
9 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕ \$30,000		\$30,000

Spoonbill Exhibit subtotal: **\$825,800**

5.03 Frog Bog Exhibits:

5 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
Frog species				
1 Densely Planted Exhibits: surfacing, planting, and irrigation	1 m <sup>2</sup>	⊕ \$140		\$140
2 Pool: shotcrete, 0.5m deep	4 m <sup>2</sup>	⊕ \$600		\$2,400
3 Life Support Systems - small: 0-25 cubic metres per hour filtered	2 m <sup>3</sup>	⊕ \$4,000		\$8,000
4 Exhibit Furnishings: down logs, etc.	1 lsum	⊕ \$4,000		\$4,000

Frog Bog Exhibit subtotal: **\$14,540**

6.00 Nocturnal:

6.01 Nocturnal Exhibits: redevelop & expand existing nocturnal house

1400 m<sup>2</sup> total area

	Quantity	Unit	Unit Cost	Subtotal
animal list?				
1 Building Shell	1400 m <sup>2</sup>	⊕ \$750		\$1,050,000
2 Animal Enclosures and Exhibitory	560 m <sup>2</sup>	⊕ \$5,000		\$2,800,000
3 Visitor Spaces	350 m <sup>2</sup>	⊕ \$3,000		\$1,050,000
4 Service and Off-Exhibit Holding	490 m <sup>2</sup>	⊕ \$1,500		\$735,000
5 Life Support Systems - medium: 26-150 cubic metres per hour filtered	150 m <sup>3</sup>	⊕ \$2,000		\$300,000

Nocturnal Exhibits subtotal: **\$5,935,000**

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7.00 Mallee

7.01 Mallee Exhibit: walk-through

900 m<sup>2</sup> exhibit area  
 20 m<sup>2</sup> night house

- Yellow Bellied Glider (*Petaurus australis*)
- Red Necked Wallaby (*Macropus rufogriseus*)
- Numbat (*Myrmecobius fasciatus*)
- Koala
- Mallee Fowl
- Rainbow Bee Eater
- Crimson Chat
- Scarlet Chested Parrot
- Red Capped Robin

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	780 m <sup>2</sup>	⊕	\$140	\$109,200
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	120 m <sup>2</sup>	⊕	\$500	\$60,000
3 Exhibit Barriers: 8m high wire mesh enclosure	1350 m <sup>2</sup>	⊕	\$300	\$405,000
4 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕	\$300	\$3,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊕	\$4,000	\$20,000
6 Night House, simple: concrete masonry, hidden	20 m <sup>2</sup>	⊕	\$1,500	\$30,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>	⊕	\$500	\$10,000
8 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>	⊕	\$1,500	\$30,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$40,000	\$40,000

Mallee Exhibit Exhibit subtotal: **\$731,200**

7.02 Apostle Bird Exhibit: walk-by

40 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

- Yellow Bellied Glider
- Greater Glider (*Petaurides volans*)
- Parma Wallaby (*Macropus parma*)
- Potoroo
- Short-beaked Echidna (*Zaglossus*)
- Common Ringtail Possum (*Pseudocheirus peregrinus*)
- Long-nosed Potoroo (*Potorous tridactylus*)

	Quantity	Unit	Unit Cost	Subtotal
1 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	40 m <sup>2</sup>	⊕	\$200	\$8,000
2 Exhibit Barriers: 5m high wire mesh enclosure	120 m <sup>2</sup>	⊕	\$250	\$30,000
3 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊕	\$1,500	\$15,000
4 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup>	⊕	\$500	\$2,000
5 Viewing Shelter: wood &/or concrete structure w/ roof	15 m <sup>2</sup>	⊕	\$1,200	\$18,000
6 Exhibit Furnishings: perching, down logs, etc.	1 lsum	⊕	\$15,000	\$15,000

Apostle Bird Exhibit subtotal: **\$88,000**

8.00 Woodlands

8.01 Escarpment Exhibit: walk-through

1600 m<sup>2</sup> exhibit area

- Platypus (*Ornithorhynchus anatinus*)
- Gang-gang Cockatoo
- Yellow-tailed Black Cockatoo (*Calyptrorhynchus funereus*)
- Lorikeet
- Short-beaked Echidna (*Tachyglossus*)
- Koala
- Kookaburra
- Brush-tailed Wallaby

Escarpment Exhibit Under Construction: **\$0**

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8.02 Parrot Aviary Exhibit: walk-by  
 parrot species

300 m<sup>2</sup> exhibit area  
 15 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	300 m <sup>2</sup>	⊕	\$140	\$42,000
2 Exhibit Barriers: 5m high wire mesh enclosure	600 m <sup>2</sup>	⊕	\$250	\$150,000
3 Pool: shotcrete, 0.5m deep	20 m <sup>2</sup>	⊕	\$300	\$6,000
4 Artificial Rockwork - simple: shotcrete	50 m <sup>2</sup>	⊕	\$400	\$20,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	10 m <sup>3</sup>	⊕	\$4,000	\$40,000
6 Night House, simple: concrete masonry, hidden	15 m <sup>2</sup>	⊕	\$1,500	\$22,500
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊕	\$500	\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊕	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$30,000	\$30,000

Parrot Aviary Exhibit subtotal: **\$362,000**

8.03 Cockatoo Exhibit: walk-by

120 m<sup>2</sup> exhibit area  
 15 m<sup>2</sup> night house

- Yellow-tailed Black Cockatoo (*Calyptrorhynchus funereus*)
- Glossy Black Cockatoo

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	120 m <sup>2</sup>	⊕	\$140	\$16,800
2 Exhibit Barriers: 5m high wire mesh enclosure	300 m <sup>2</sup>	⊕	\$250	\$75,000
3 Pool: shotcrete, 0.5m deep	5 m <sup>2</sup>	⊕	\$300	\$1,500
4 Artificial Rockwork - simple: shotcrete	20 m <sup>2</sup>	⊕	\$400	\$8,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	3 m <sup>3</sup>	⊕	\$4,000	\$10,000
6 Night House, simple: concrete masonry, hidden	15 m <sup>2</sup>	⊕	\$1,500	\$22,500
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊕	\$500	\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊕	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$20,000	\$20,000

Parrot Aviary Exhibit subtotal: **\$205,300**

8.04 Quoll Exhibit: walk-by

30 m<sup>2</sup> exhibit area  
 4 m<sup>2</sup> night house

- Tiger Quoll (*Dasyurus maculatus*)

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	30 m <sup>2</sup>	⊕	\$140	\$4,200
2 Exhibit Barriers: 2m high shotcrete walls	26 m <sup>2</sup>	⊕	\$400	\$10,400
3 Pool: shotcrete, 0.5m deep	4 m <sup>2</sup>	⊕	\$300	\$1,200
4 Artificial Rockwork - simple: shotcrete	5 m <sup>2</sup>	⊕	\$400	\$2,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	2 m <sup>3</sup>	⊕	\$4,000	\$8,000
6 Night House, simple: concrete masonry, hidden	4 m <sup>2</sup>	⊕	\$1,500	\$6,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup>	⊕	\$500	\$2,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	15 m <sup>2</sup>	⊕	\$1,200	\$18,000
9 Glazing: 12 mm thick laminated tempered glass	12 m <sup>2</sup>	⊕	\$1,500	\$18,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$2,500	\$2,500

Quoll Exhibit subtotal: **\$72,300**

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8.05 Tasmanian Devil Exhibit: walk-by  
 Tasmanian Devil (*Sarcophilus harrisii*)

50 m<sup>2</sup> exhibit area  
 4 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	50 m <sup>2</sup>	⊕	\$140	\$7,000
2 Exhibit Barriers: 2m high shotcrete walls	30 m <sup>2</sup>	⊕	\$400	\$12,000
3 Pool: shotcrete, 0.5m deep	4 m <sup>2</sup>	⊕	\$300	\$1,200
4 Artificial Rockwork - simple: shotcrete	10 m <sup>2</sup>	⊕	\$400	\$4,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	2 m <sup>2</sup>	⊕	\$4,000	\$8,000
6 Night House, simple: concrete masonry, hidden	4 m <sup>2</sup>	⊕	\$1,500	\$6,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup>	⊕	\$500	\$2,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	12 m <sup>2</sup>	⊕	\$1,500	\$18,000
10 Exhibit Furnishings: down logs, etc.	1 lsum	⊕	\$1,500	\$1,500

Tasmanian Devil Exhibit subtotal: **\$83,700**

8.06 Koalas in Focus: Koalas up-close - 4 enclosures @ 40sm  
 Koala (*Phascolarctos cinereus*)

160 m<sup>2</sup> exhibit area  
 60 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	160 m <sup>2</sup>	⊕	\$140	\$22,400
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	80 m <sup>2</sup>	⊕	\$200	\$16,000
3 Exhibit Barriers: 2m high shotcrete walls	200 m <sup>2</sup>	⊕	\$400	\$80,000
4 Artificial Rockwork - complex: shotcrete	40 m <sup>2</sup>	⊕	\$600	\$24,000
5 Night House, simple: concrete masonry, hidden	60 m <sup>2</sup>	⊕	\$1,500	\$90,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>	⊕	\$500	\$10,000
7 Entry/Exit Vestibules: wood &/or concrete & mesh structures	12 m <sup>2</sup>	⊕	\$1,500	\$18,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
9 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$20,000	\$20,000

Koalas in Focus Exhibit subtotal: **\$304,400**

8.07 Platypus Exhibit: (reverse day-light facility)  
 Platypus (*Ornithorhynchus anatinus*)

80 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
1 Building Shell	80 m <sup>2</sup>	⊕	\$750	\$60,000
2 Animal Enclosures and Exhibitory	24 m <sup>2</sup>	⊕	\$5,000	\$120,000
3 Visitor Spaces	32 m <sup>2</sup>	⊕	\$3,000	\$96,000
4 Service and Off-Exhibit Holding	24 m <sup>2</sup>	⊕	\$1,500	\$36,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	15 m <sup>2</sup>	⊕	\$4,000	\$60,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup>	⊕	\$500	\$2,000
7 Glazing: 48 mm thick laminated tempered glass	20 m <sup>2</sup>	⊕	\$3,500	\$70,000
8 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$30,000	\$30,000

Water-rat Exhibit subtotal: **\$474,000**

8.08 Water-rat Exhibit: (reverse day-light facility)  
 Water-rat (*Hydromys chrysogaster*)

60 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
1 Building Shell	60 m <sup>2</sup>	⊕	\$750	\$45,000
2 Animal Enclosures and Exhibitory	18 m <sup>2</sup>	⊕	\$5,000	\$90,000
3 Visitor Spaces	24 m <sup>2</sup>	⊕	\$3,000	\$72,000
4 Service and Off-Exhibit Holding	18 m <sup>2</sup>	⊕	\$1,500	\$27,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	15 m <sup>2</sup>	⊕	\$4,000	\$60,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup>	⊕	\$500	\$2,000
7 Glazing: 48 mm thick laminated tempered glass	20 m <sup>2</sup>	⊕	\$3,500	\$70,000
8 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$30,000	\$30,000

Water-rat Exhibit subtotal: **\$396,000**

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9.00 Grasslands

9.01 Grasslands Aviary Exhibit: walk-through

300 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
Budgies				
Gouldian Finch				
Cockatiel				
Long-tailed Finch				
Spinifex Pigeon ( <i>Geophaps plumifera plumifera</i> )				
Brush-tailed Bettong ( <i>Bettongia penicillata</i> )				
Eastern Barred Bandicoot ( <i>Perameles gunnii</i> )				
Short-beaked Echidna ( <i>Tachyglossus</i> )				
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	265 m <sup>2</sup>	⊕	\$140	\$37,100
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	40 m <sup>2</sup>	⊕	\$200	\$8,000
3 Exhibit Barriers: 5m high wire mesh enclosure	750 m <sup>2</sup>	⊕	\$250	\$187,500
4 Pool: shotcrete, 0.5m deep	5 m <sup>2</sup>	⊕	\$300	\$1,500
5 Artificial Exhibitory: shotcrete trees, termite mounds, etc.	10 m <sup>2</sup>	⊕	\$1,500	\$15,000
6 Life Support Systems - small: 0-25 cubic metres per hour filtered	3 m <sup>2</sup>	⊕	\$4,000	\$10,000
7 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊕	\$1,500	\$15,000
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	5 m <sup>2</sup>	⊕	\$500	\$2,500
9 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>	⊕	\$1,500	\$30,000
10 Viewing Shelter: wood &/or concrete structure w/ roof	15 m <sup>2</sup>	⊕	\$1,200	\$18,000
11 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$20,000	\$20,000

Grasslands Aviary Exhibit subtotal: **\$344,600**

9.02 Hairy-nosed Wombat Exhibit:

Southern Hairy-nosed Wombat (*Lasiornhinus latifrons*)

45 m<sup>2</sup> exhibit area  
 4 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	30 m <sup>2</sup>	⊕	\$140	\$4,200
2 Exhibit Barriers: 1.5m high shotcrete wall	30 m <sup>2</sup>	⊕	\$350	\$10,500
3 Pool: shotcrete, 0.5m deep	2 m <sup>2</sup>	⊕	\$1,200	\$2,400
4 Artificial Rockwork - complex: shotcrete	5 m <sup>2</sup>	⊕	\$600	\$3,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	1 m <sup>2</sup>	⊕	\$4,000	\$4,000
6 Night House, simple: concrete masonry, hidden	4 m <sup>2</sup>	⊕	\$1,500	\$6,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	15 m <sup>2</sup>	⊕	\$500	\$7,500
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊕	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$10,000	\$10,000

Hairy-nosed Wombat Exhibit subtotal: **\$94,100**

9.03 Dragon Exhibit

Dragon sp.

2 m<sup>2</sup> exhibit area

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	2 m <sup>2</sup>	⊕	\$140	\$280
2 Exhibit Barriers: 1.5m high shotcrete walls	6 m <sup>2</sup>	⊕	\$350	\$2,100
3 Artificial Rockwork - complex: shotcrete	5 m <sup>2</sup>	⊕	\$600	\$3,000
4 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	15 m <sup>2</sup>	⊕	\$500	\$7,500
5 Viewing Shelter: wood &/or concrete structure w/ roof	6 m <sup>2</sup>	⊕	\$1,200	\$7,200
6 Glazing: 12 mm thick laminated tempered glass	6 m <sup>2</sup>	⊕	\$1,500	\$9,000
7 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕	\$5,000	\$5,000

Dragon Exhibit subtotal: **\$34,080**

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 10.00 Semi-arid

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10.01 Red Kangaroo and Western Grey Kangaroo Exhibit: walk-by		600 m <sup>2</sup> exhibit area 50 m <sup>2</sup> night house	
Quantity	Unit	Unit Cost	Subtotal
Red Kangaroo ( <i>Macropus rufus</i> ) 3 male group			
Western Grey Kangaroo ( <i>Macropus fuliginosus</i> )			
Emu ( <i>Dromaius novaehollandiae</i> )			
Bustard			
1	Open Exhibits: surfacing, planting, and Irrigation	530 m <sup>2</sup> @ \$60	\$31,800
2	Exhibit Barriers: 2.4m high wire mesh	240 m <sup>2</sup> @ \$300	\$72,000
3	Pool: shotcrete, 0.5m deep	20 m <sup>2</sup> @ \$300	\$6,000
4	Artificial Rockwork - complex: shotcrete	50 m <sup>2</sup> @ \$600	\$30,000
5	Life Support Systems - small: 0-25 cubic metres per hour filtered	10 m <sup>3</sup> @ \$4,000	\$40,000
6	Night House, simple: concrete masonry, hidden	50 m <sup>2</sup> @ \$1,500	\$75,000
7	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate	200 m <sup>2</sup> @ \$50	\$10,000
8	Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup> @ \$1,200	\$24,000
9	Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum @ \$20,000	\$20,000

Red Kangaroo and Western Gray Kangaroo Exhibit subtotal: **\$308,800**

10.02 Hairy-nosed Wombat Exhibit:		45 m <sup>2</sup> exhibit area 4 m <sup>2</sup> night house	
Quantity	Unit	Unit Cost	Subtotal
Northern Hairy-nosed Wombat ( <i>Lasiornis kreffii</i> )			
1	Densely Planted Exhibits: surfacing, planting, and Irrigation	30 m <sup>2</sup> @ \$140	\$4,200
2	Exhibit Barriers: 1.5m high shotcrete walls	30 m <sup>2</sup> @ \$350	\$10,500
3	Pool: shotcrete, 0.5m deep	2 m <sup>2</sup> @ \$1,200	\$2,400
4	Artificial Rockwork - complex: shotcrete	5 m <sup>2</sup> @ \$600	\$3,000
5	Life Support Systems - small: 0-25 cubic metres per hour filtered	1 m <sup>3</sup> @ \$4,000	\$4,000
6	Night House, simple: concrete masonry, hidden	4 m <sup>2</sup> @ \$1,500	\$6,000
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	15 m <sup>2</sup> @ \$500	\$7,500
8	Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup> @ \$1,200	\$24,000
9	Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup> @ \$1,500	\$22,500
10	Exhibit Furnishings: down logs, etc.	1 lsum @ \$10,000	\$10,000

Hairy-nosed Wombat Exhibit subtotal: **\$94,100**

10.03 Macropod Walk-through Exhibit: walk-through		600 m <sup>2</sup> exhibit area 50 m <sup>2</sup> night house	
Quantity	Unit	Unit Cost	Subtotal
Red Kangaroo ( <i>Macropus rufus</i> ) females			
Western Grey Kangaroo ( <i>Macropus fuliginosus</i> )			
additional species?			
1	Open Exhibits: surfacing, planting, and Irrigation	600 m <sup>2</sup> @ \$60	\$36,000
2	Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	60 m <sup>2</sup> @ \$200	\$12,000
3	Exhibit Barriers: 2.4m high wire mesh	100 lm @ \$300	\$30,000
4	Pool: shotcrete, 0.5m deep	12 m <sup>2</sup> @ \$300	\$3,600
5	Artificial Rockwork - simple: shotcrete	50 m <sup>2</sup> @ \$400	\$20,000
6	Life Support Systems - small: 0-25 cubic metres per hour filtered	6 m <sup>3</sup> @ \$4,000	\$24,000
7	Night House, simple: concrete masonry, hidden	50 m <sup>2</sup> @ \$1,500	\$75,000
8	Off-Exhibit Barriers: 2.4m high wire mesh	60 lm @ \$300	\$18,000
9	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate	200 m <sup>2</sup> @ \$50	\$10,000
10	Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup> @ \$1,500	\$30,000
11	Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup> @ \$1,200	\$24,000
12	Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum @ \$20,000	\$20,000

Macropod Walk-through Exhibit subtotal: **\$302,600**

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10.04 Semi-arid Aviary Exhibit: walk-through		300 m <sup>2</sup> exhibit area 20 m <sup>2</sup> night house	
Quantity	Unit	Unit Cost	Subtotal
11 species, 50 birds Shingle-back Skink			
1	Densely Planted Exhibits: surfacing, planting, and Irrigation	260 m <sup>2</sup> @ \$140	\$36,400
2	Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	30 m <sup>2</sup> @ \$200	\$6,000
3	Exhibit Barriers: 5m high wire mesh enclosure	750 m <sup>2</sup> @ \$250	\$187,500
4	Pool: shotcrete, 0.5m deep	10 m <sup>2</sup> @ \$300	\$3,000
5	Artificial Rockwork - simple: shotcrete	30 m <sup>2</sup> @ \$400	\$12,000
6	Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup> @ \$4,000	\$20,000
7	Night House, simple: concrete masonry, hidden	20 m <sup>2</sup> @ \$1,500	\$30,000
8	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup> @ \$500	\$10,000
9	Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup> @ \$1,500	\$30,000
10	Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup> @ \$1,200	\$24,000
11	Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum @ \$20,000	\$20,000

Semi-arid Aviary Exhibit subtotal: **\$378,900**

10.05 Monitor Exhibit: walk-by monitor sp.		16 m <sup>2</sup> exhibit area 2 m <sup>2</sup> night house	
Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and Irrigation	14 m <sup>2</sup> @ \$140	\$1,960
2	Exhibit Barriers: 1.5m high shotcrete walls	24 m <sup>2</sup> @ \$350	\$8,400
3	Pool: shotcrete, 0.25m deep	1 m <sup>2</sup> @ \$300	\$300
4	Artificial Rockwork - complex: shotcrete	1 m <sup>2</sup> @ \$1,200	\$1,200
5	Life Support Systems - small: 0-25 cubic metres per hour filtered	1 m <sup>3</sup> @ \$4,000	\$4,000
6	Night House, simple: concrete masonry, hidden	2 m <sup>2</sup> @ \$1,500	\$3,000
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	4 m <sup>2</sup> @ \$500	\$2,000
8	Viewing Shelter: wood &/or concrete structure w/ roof	12 m <sup>2</sup> @ \$1,200	\$14,400
9	Glazing: 12 mm thick laminated tempered glass	8 m <sup>2</sup> @ \$1,500	\$12,000
10	Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum @ \$5,000	\$5,000

Monitor Exhibit subtotal: **\$52,260**

Total of Subtotals: **\$25,635,610**  
 Contingency at 10%: **\$2,563,561**  
 Professional Fees, Testing, Construction Administration at 25%: **\$7,049,793**  
 Australia Total: **\$35,248,964**

B. Backyard to Bush' Children's Centre		8,400 m <sup>2</sup> exhibit area	
Quantity	Unit	Unit Cost	Subtotal
1.00 General Site Work, Public Spaces, and Interpretation:			
1	Site Demolition	8,400 m <sup>2</sup> @ \$5	\$42,000
2	Interpretive Media	10 % @ \$7,700,000	\$770,000
3	Water Play Fountain:	1 lsum @ \$150,000	\$150,000
4	Furnishings	1 lsum @ \$50,000	\$50,000
5	Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	1200 m <sup>2</sup> @ \$200	\$240,000
6	Buffer Plantings: soil preparation and planting	2080 m <sup>2</sup> @ \$120	\$249,600
7	Earthwork: balanced cut and fill	2100 m <sup>3</sup> @ \$50	\$105,000
8	Rock Excavation: allowance	420 m <sup>3</sup> @ \$300	\$126,000
9	Irrigation: open lawn	2080 m <sup>2</sup> @ \$8	\$16,640
10	Service Road: base, surfacing, storm drainage	250 m <sup>2</sup> @ \$50	\$12,500
11	Utility Services: water, power, sewers	15 % @ \$7,700,000	\$1,155,000

subtotal: **\$2,916,740**

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2.00 House

2.01 House

160 m <sup>2</sup> building			
Quantity	Unit	Unit Cost	Subtotal
160	m <sup>2</sup>	⊙ \$3,000	\$480,000
400	m <sup>2</sup>	⊙ \$300	\$120,000
House subtotal:			<b>\$600,000</b>

- 1 Visitor Spaces
- 2 Front and Back Yards: paving, planting, furnishings

3.00 Farm

3.01 Barn Exhibit: walk-through

400 m <sup>2</sup> exhibit area			
Quantity	Unit	Unit Cost	Subtotal
400	m <sup>2</sup>	⊙ \$1,500	\$600,000
Barn Exhibit subtotal:			<b>\$600,000</b>

- 1 Barn Structure: stalls and visitor spaces

3.02 Goat Exhibit: walk-through

Domestic Sheep (Ovis ) 1.15.0

400 m <sup>2</sup> exhibit area night quarters in barn			
Quantity	Unit	Unit Cost	Subtotal
350	m <sup>2</sup>	⊙ \$60	\$21,000
100	lm	⊙ \$100	\$10,000
100	m <sup>2</sup>	⊙ \$400	\$40,000
50	m <sup>2</sup>	⊙ \$50	\$2,500
6	m <sup>2</sup>	⊙ \$1,500	\$9,000
50	m <sup>2</sup>	⊙ \$500	\$25,000
1	lsum	⊙ \$20,000	\$20,000
Goat Exhibit subtotal:			<b>\$127,500</b>

- 1 Open Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit & Off-Exhibit Barriers: 1.2m high wire mesh
- 3 Artificial Rockwork - simple: shotcrete
- 4 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
- 5 Entry/Exit Vestibules: wood &/or concrete & mesh structures
- 6 Visitor and Animal Shelter: wood structure
- 7 Exhibit Furnishings: climbing structures, etc.

3.03 Sheep Exhibit: walk-through

Domestic Sheep (Ovis ) 1.15.0

400 m <sup>2</sup> exhibit area night quarters in barn			
Quantity	Unit	Unit Cost	Subtotal
350	m <sup>2</sup>	⊙ \$60	\$21,000
100	lm	⊙ \$100	\$10,000
100	m <sup>2</sup>	⊙ \$400	\$40,000
50	m <sup>2</sup>	⊙ \$50	\$2,500
6	m <sup>2</sup>	⊙ \$1,500	\$9,000
50	m <sup>2</sup>	⊙ \$500	\$25,000
1	lsum	⊙ \$20,000	\$20,000
Sheep Exhibit subtotal:			<b>\$127,500</b>

- 1 Open Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit & Off-Exhibit Barriers: 1.2m high wire mesh
- 3 Artificial Rockwork - simple: shotcrete
- 4 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
- 5 Entry/Exit Vestibules: wood &/or concrete & mesh structures
- 6 Visitor and Animal Shelter: wood structure
- 7 Exhibit Furnishings: climbing structures, etc.

3.04 Party Place:

160 m <sup>2</sup> building			
Quantity	Unit	Unit Cost	Subtotal
120	m <sup>2</sup>	⊙ \$2,200	\$264,000
20	m <sup>2</sup>	⊙ \$1,500	\$30,000
20	m <sup>2</sup>	⊙ \$1,500	\$30,000
1	lsum	⊙ \$40,000	\$40,000
120	m <sup>2</sup>	⊙ \$500	\$60,000
Party Place subtotal:			<b>\$424,000</b>

- 1 Visitor Areas
- 2 Staff Areas
- 3 Kitchen and Toilets:
- 4 Catering Kitchen Equipment: 10m<sup>2</sup>
- 5 Furnishings

4.00 Bush

4.01 Outback Interactive Exhibits: walk-through

(Interactives included in interpretive budget)

1000 m <sup>2</sup> exhibit area			
Quantity	Unit	Unit Cost	Subtotal
800	m <sup>2</sup>	⊙ \$140	\$112,000
200	m <sup>2</sup>	⊙ \$200	\$40,000
250	m <sup>2</sup>	⊙ \$600	\$150,000
Outback Interpretive Exhibits subtotal:			<b>\$302,000</b>

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage
- 3 Artificial Rockwork - complex: shotcrete

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4.02 Camel Exhibit:

Camel

800 m <sup>2</sup> exhibit area 60 m <sup>2</sup> night house			
Quantity	Unit	Unit Cost	Subtotal
800	m <sup>2</sup>	⊙ \$60	\$48,000
180	lm	⊙ \$150	\$27,000
60	m <sup>2</sup>	⊙ \$1,500	\$90,000
200	m <sup>2</sup>	⊙ \$50	\$10,000
1	lsum	⊙ \$10,000	\$10,000
Camel Exhibit subtotal:			<b>\$185,000</b>

- 1 Open Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit and Off-exhibit Barriers: 1.5m high fence
- 3 Night House, simple: concrete masonry, hidden
- 4 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
- 5 Exhibit Furnishings: down logs, etc.

4.03 Dingo Exhibit:

Dingo (Canis lupus dingo)

600 m <sup>2</sup> exhibit area 40 m <sup>2</sup> night house			
Quantity	Unit	Unit Cost	Subtotal
433	m <sup>2</sup>	⊙ \$140	\$60,667
120	lm	⊙ \$200	\$24,000
100	m <sup>2</sup>	⊙ \$300	\$30,000
100	m <sup>2</sup>	⊙ \$400	\$40,000
17	m <sup>3</sup>	⊙ \$2,000	\$33,333
40	m <sup>2</sup>	⊙ \$1,500	\$60,000
150	m <sup>2</sup>	⊙ \$50	\$7,500
20	m <sup>2</sup>	⊙ \$1,200	\$24,000
1	lsum	⊙ \$25,000	\$25,000
Dingo Exhibit subtotal:			<b>\$304,500</b>

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit and Off-exhibit Barrier: 2m high fence
- 3 Water Moat: shotcrete, 0.5m deep, 4m wide
- 4 Artificial Rockwork - simple: shotcrete
- 5 Life Support Systems - medium: 26-150 cubic metres per hour filtered
- 6 Night House, simple: concrete masonry, hidden
- 7 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
- 8 Viewing Shelter: wood &/or concrete structure w/ roof
- 10 Exhibit Furnishings: downed logs, etc.

Total of Subtotals: **\$5,587,240**

Contingency at 10%: \$558,724

Professional Fees, Testing, Construction Administration at 25%: \$1,536,491

Backyard to Bush Children's Centre Total: **\$7,682,455**

C. Australian Coast / Working with Animals

10,800 m<sup>2</sup> exhibit area

Leopard seal, Australian Fur Seal, New Zealand Fur Seal  
 Australian sea lion, California Sealion  
 Little and Fjordland Crested penguins, sea birds, wading birds, fish, invertebrates

- 1.00 General Site Work, Public Spaces, and Interpretation: \$8,000,000
- 2.00 Australian Coast Exhibits: \$12,000,000

Proposed Exhibit Budget subtotal: **\$20,000,000**

Contingency at 10%: \$2,000,000

Professional Fees, Testing, Construction Administration at 25%: \$5,500,000

Australian Coast / Working with Animals Total: **\$27,500,000**

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 D. South America

10 November 1999

1.00 General Site Work, Public Spaces, and Interpretation:

	Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	3,825 m <sup>2</sup>	⊙	\$5	\$19,125
2 Interpretive Media	10 %	⊙	\$7,750,000	\$775,000
3 Main Visitor Pathway: base, surfacing, visitor barrier, storm drainage	240 m <sup>2</sup>	⊙	\$300	\$72,000
4 Buffer Plantings: soil preparation and planting	2818 m <sup>2</sup>	⊙	\$120	\$338,160
5 Earthwork: balanced cut and fill	956 m <sup>3</sup>	⊙	\$50	\$47,813
6 Rock Excavation: allowance	956 m <sup>3</sup>	⊙	\$300	\$286,875
7 Irrigation	2818 m <sup>2</sup>	⊙	\$20	\$56,360
8 Service Road: base, surfacing, storm drainage	100 m <sup>2</sup>	⊙	\$50	\$5,000
9 Utility Services: water, power, sewers	15 %	⊙	\$7,750,000	\$1,162,500
subtotal:				\$2,762,833

3,825 m<sup>2</sup> exhibit area

2.00 Tropical Rainforest:

2.01 Spider Monkey Exhibit:

Spider Monkey (*Ateles geoffroyi*)

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	600 m <sup>2</sup>	⊙	\$140	\$84,000
2 Large Trees:	5 ea	⊙	\$5,000	\$25,000
3 Exhibit Barriers: remodel existing orang-utan exhibit	1 lsum	⊙	\$50,000	\$50,000
4 Artificial Rockwork - simple: shotcrete	50 m <sup>2</sup>	⊙	\$400	\$20,000
5 Night House: remodel existing orang holding	40 m <sup>2</sup>	⊙	\$750	\$30,000
6 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
7 Glazing: 12 mm thick laminated tempered glass	12 m <sup>2</sup>	⊙	\$1,500	\$18,000
8 Exhibit Furnishings: climbing structures	1 lsum	⊙	\$30,000	\$30,000

600 m<sup>2</sup> exhibit area  
40 m<sup>2</sup> night house

Spider Monkey Exhibit subtotal: \$281,000

2.02 Monk Parakeet Exhibit: walk-by

Monk Parakeet (*Myiopsitta monachus*) 10.20.0

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	65 m <sup>2</sup>	⊙	\$140	\$9,100
2 Exhibit Barriers: 5m high wire mesh enclosure	250 m <sup>2</sup>	⊙	\$250	\$62,500
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊙	\$300	\$3,000
4 Artificial Rockwork - simple: shotcrete	25 m <sup>2</sup>	⊙	\$400	\$10,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊙	\$4,000	\$20,000
6 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊙	\$1,500	\$15,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊙	\$500	\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊙	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$20,000	\$20,000

100 m<sup>2</sup> exhibit area  
10 m<sup>2</sup> night house

Monk Parakeet Exhibit subtotal: \$191,100

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2.03 Macaw Exhibit: walk-by

Blue and Gold Macaw  
 Golden Agouti

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	65 m <sup>2</sup>	⊙	\$140	\$9,100
2 Exhibit Barriers: 5m high wire mesh enclosure	250 m <sup>2</sup>	⊙	\$250	\$62,500
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊙	\$300	\$3,000
4 Artificial Rockwork - simple: shotcrete	25 m <sup>2</sup>	⊙	\$400	\$10,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊙	\$4,000	\$20,000
6 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊙	\$1,500	\$15,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊙	\$500	\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊙	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$20,000	\$20,000

100 m<sup>2</sup> exhibit area  
10 m<sup>2</sup> night house

Macaw Exhibit subtotal: \$191,100

2.04 Tamarin Exhibit: walk-through?

Black Tamarin  
 South American birds?

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	60 m <sup>2</sup>	⊙	\$140	\$8,400
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	15 m <sup>2</sup>	⊙	\$200	\$3,000
3 Exhibit Barriers: 5m high wire mesh enclosure	188 m <sup>2</sup>	⊙	\$250	\$46,875
4 Pool: shotcrete, 0.5m deep	5 m <sup>2</sup>	⊙	\$300	\$1,500
5 Artificial Rockwork - complex: shotcrete	10 m <sup>2</sup>	⊙	\$600	\$6,000
6 Life Support Systems - small: 0-25 cubic metres per hour filtered	3 m <sup>3</sup>	⊙	\$4,000	\$10,000
7 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊙	\$1,500	\$15,000
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊙	\$500	\$5,000
9 Entry/Exit Vestibules: wood &/or concrete & mesh structures	15 m <sup>2</sup>	⊙	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$15,000	\$15,000

75 m<sup>2</sup> exhibit area  
3 m<sup>2</sup> night house

Sloth Exhibit subtotal: \$133,275

2.05 Macaw Exhibit/Tortoise: walk-by

Macaw sp?  
 Tortoise sp?

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	65 m <sup>2</sup>	⊙	\$140	\$9,100
2 Exhibit Barriers: 5m high wire mesh enclosure	250 m <sup>2</sup>	⊙	\$250	\$62,500
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊙	\$300	\$3,000
4 Artificial Rockwork - complex: shotcrete	25 m <sup>2</sup>	⊙	\$600	\$15,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊙	\$4,000	\$20,000
6 Night House, simple: concrete masonry, hidden	10 m <sup>2</sup>	⊙	\$1,500	\$15,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊙	\$500	\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
9 Glazing: 12 mm thick laminated tempered glass	15 m <sup>2</sup>	⊙	\$1,500	\$22,500
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$20,000	\$20,000

100 m<sup>2</sup> exhibit area  
10 m<sup>2</sup> night house

Macaw Exhibit subtotal: \$196,100

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 Exhibit Brief and Capital Construction Costs  
 2.06 Yellow Anaconda Exhibit: walk-by  
 Yellow Anaconda (*Eunectes* sp)  
 10. November 1999

16 m <sup>2</sup> exhibit area 8 m <sup>2</sup> night house				
	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	4	m <sup>2</sup>	€ \$560	\$2,240
2 Exhibit Barriers: 3m high glass enclosure				
Glazing: 12 mm thick laminated tempered glass	24	m <sup>2</sup>	€ \$1,500	\$36,000
3 Pool: shotcrete, 1m deep	12	m <sup>2</sup>	€ \$300	\$3,600
4 Artificial Exhibitory: streambank	4	m <sup>2</sup>	€ \$1,500	\$6,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	12	m <sup>3</sup>	€ \$4,000	\$48,000
6 Night House, simple: concrete masonry, hidden	8	m <sup>2</sup>	€ \$1,500	\$12,000
7 Viewing Shelter: wood &/or concrete structure w/ roof	20	m <sup>2</sup>	€ \$1,200	\$24,000
Anaconda Exhibit subtotal:				\$131,840

2.07 Poison-Arrow Frog Exhibit: walk-by

16 m <sup>2</sup> exhibit area				
	Quantity	Unit	Unit Cost	Subtotal
Red-and-blue poison-arrow Frog ( <i>Dendrobates pumillo</i> )				
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	4	m <sup>2</sup>	€ \$140	\$560
2 Exhibit Barriers: 3m high glass enclosure				
Glazing: 12 mm thick laminated tempered glass	16	m <sup>2</sup>	€ \$1,500	\$24,000
3 Pool: shotcrete, 1m deep	12	m <sup>2</sup>	€ \$300	\$3,600
4 Artificial Exhibitory: shotcrete buttress trees	6	m <sup>2</sup>	€ \$1,500	\$9,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	12	m <sup>3</sup>	€ \$4,000	\$48,000
6 Viewing Shelter: wood &/or concrete structure w/ roof	20	m <sup>2</sup>	€ \$1,200	\$24,000
7 Exhibit Furnishings: props and special effects	1	lsum	€ \$10,000	\$10,000
Poison-Arrow Frog Exhibit subtotal:				\$119,160

2.08 Cotton-top Tamarin Exhibit: free-range

none m <sup>2</sup> exhibit area				
	Quantity	Unit	Unit Cost	Subtotal
Cotton-top Tamarin				
1 Night House: fiberglass and plexiglass, concealed from public view	1	m <sup>2</sup>	€ \$3,000	\$3,000
Black Tamarin Exhibit subtotal:				\$3,000

3.00 Serpentaria

3.01 Serpentaria: existing building remodel  
 reptile species ?

976 m <sup>2</sup> building area				
	Quantity	Unit	Unit Cost	Subtotal
1 Animal Enclosure and Exhibitory	390	m <sup>2</sup>	€ \$2,500	\$976,000
2 Visitor Spaces	293	lm	€ \$1,500	\$439,200
2 Service and Off-exhibit Holding	293	lm	€ \$750	\$219,600
Serpentaria Remodel subtotal:				\$1,634,800
Total of Subtotals:				\$5,644,208
Contingency at 10%:				\$564,421
Professional Fees, Testing, Construction Administration at 25%:				\$1,552,157
South America Total:				\$7,760,785

Taronga Zoo Master Plan  
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 E. Africa  
 17,700 m<sup>2</sup> exhibit area  
 10. November 1999

17,700 m <sup>2</sup> exhibit area				
	Quantity	Unit	Unit Cost	Subtotal
1.00 General Site Work and Public Spaces:				
1 Site Demolition	17,700	m <sup>2</sup>	€ \$5	\$88,500
2 Interpretive Media	10	%	€ \$23,000,000	\$2,300,000
3 Main Visitor Pathway: base, surfacing, visitor barrier, storm drainage	240	m <sup>2</sup>	€ \$300	\$72,000
4 Buffer Plantings: soil preparation and planting	4230	m <sup>2</sup>	€ \$120	\$507,600
5 Earthwork: balanced cut and fill	4425	m <sup>3</sup>	€ \$50	\$221,250
6 Rock Excavation: allowance	1770	m <sup>3</sup>	€ \$300	\$531,000
7 Irrigation	4230	m <sup>2</sup>	€ \$20	\$84,600
8 Service Road	100	m <sup>2</sup>	€ \$50	\$5,000
9 Utility Services: water, power, sewers	15	%	€ \$23,000,000	\$3,450,000
subtotal:				\$7,259,950

2.00 Tropical Savanna:

2.01 Savanna Aviary Exhibit: walk-through  
 bird species?

300 m <sup>2</sup> exhibit area 20 m <sup>2</sup> night house				
	Quantity	Unit	Unit Cost	Subtotal
1 Open Exhibits: surfacing, planting, and Irrigation	205	m <sup>2</sup>	€ \$60	\$12,300
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	40	m <sup>2</sup>	€ \$200	\$8,000
3 Exhibit Barriers: 5m high wire mesh enclosure	750	m <sup>2</sup>	€ \$250	\$187,500
4 Pool: shotcrete, 0.5m deep	15	m <sup>2</sup>	€ \$300	\$4,500
5 Artificial Rockwork - complex: shotcrete	40	m <sup>2</sup>	€ \$600	\$24,000
6 Life Support Systems - small: 0-25 cubic metres per hour filtered	15	m <sup>3</sup>	€ \$4,000	\$60,000
7 Night House, simple: concrete masonry, hidden	20	m <sup>2</sup>	€ \$1,500	\$30,000
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	15	m <sup>2</sup>	€ \$500	\$7,500
9 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20	m <sup>2</sup>	€ \$1,500	\$30,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1	lsum	€ \$20,000	\$20,000
Savanna Aviary Exhibit subtotal:				\$383,800

2.02 Meerkat Exhibit:

Grey Meerkat (*Suricata suricatta*)

100 m <sup>2</sup> exhibit area 40 m <sup>2</sup> night house				
	Quantity	Unit	Unit Cost	Subtotal
1 Open Exhibits: surfacing, planting, and Irrigation	150	m <sup>2</sup>	€ \$60	\$9,000
2 Exhibit Barriers: 1.5m high shotcrete walls	60	m <sup>2</sup>	€ \$350	\$21,000
3 Artificial Rockwork - complex: shotcrete	75	m <sup>2</sup>	€ \$600	\$45,000
4 Night House, simple: concrete masonry, hidden	40	m <sup>2</sup>	€ \$1,500	\$60,000
5 Exterior Off-Exhibit Enclosures: mesh w/ concrete slab	10	m <sup>2</sup>	€ \$500	\$5,000
6 Viewing Shelter: wood &/or concrete structure w/ roof	20	m <sup>2</sup>	€ \$1,200	\$24,000
7 Glazing: 12 mm thick laminated tempered glass	15	m <sup>2</sup>	€ \$1,500	\$22,500
8 Exhibit Furnishings: fallen trees	1	lsum	€ \$5,000	\$5,000
Meerkat Exhibit subtotal:				\$191,500

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2.03 Giraffe/Zebra/Oryx Exhibit. exhibit renovation

3000 m<sup>2</sup> exhibit area  
325 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
Greater and/or Lesser Flamingos				
1 Open Exhibits: surfacing, planting, and Irrigation	3000 m <sup>2</sup>	⊕ \$60		\$180,000
2 Exhibit Barriers: 2.4m shotcrete dry moat	312 m <sup>2</sup>	⊕ \$400		\$124,800
3 Pool: shotcrete, 0.5m deep	150 m <sup>2</sup>	⊕ \$300		\$45,000
4 Artificial Rockwork - simple: shotcrete	250 m <sup>2</sup>	⊕ \$400		\$100,000
5 Life Support Systems - medium: 26-150 cubic metres per hour filtered	75 m <sup>3</sup>	⊕ \$2,000		\$150,000
6 Night House: wood and concrete masonry barn and stalls	325 m <sup>2</sup>	⊕ \$1,500		\$487,500
7 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate	400 m <sup>2</sup>	⊕ \$50		\$20,000
8 Exterior Off-Exhibit Enclosures: 2.4m high barrier	80 lm	⊕ \$300		\$24,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕ \$1,200		\$24,000
10 Exhibit Furnishings: down logs, etc.	1 lsum	⊕ \$40,000		\$40,000

Giraffe/Zebra/Oryx Exhibit subtotal: \$1,195,300

2.04 Lion Exhibit

African Lion (Leo)

900 m<sup>2</sup> exhibit area  
200 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Open Exhibits: surfacing, planting, and Irrigation	640 m <sup>2</sup>	⊕ \$60		\$38,400
2 Exhibit Barriers: 5m high shotcrete walls	650 m <sup>2</sup>	⊕ \$450		\$292,500
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕ \$300		\$3,000
4 Artificial Rockwork - simple: shotcrete	250 m <sup>2</sup>	⊕ \$400		\$100,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊕ \$4,000		\$20,000
6 Night House, complex: concrete masonry, hidden, complex caging	200 m <sup>2</sup>	⊕ \$2,500		\$500,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	100 m <sup>2</sup>	⊕ \$500		\$50,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	50 m <sup>2</sup>	⊕ \$1,200		\$60,000
9 Glazing: 48 mm thick laminated tempered glass	30 m <sup>2</sup>	⊕ \$3,500		\$105,000
10 Exhibit Furnishings: down logs, etc.	1 lsum	⊕ \$20,000		\$20,000

Lion Exhibit subtotal: \$1,188,900

2.05 Mandrill Exhibit:

Mandrill

1000 m<sup>2</sup> exhibit area  
100 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	700 m <sup>2</sup>	⊕ \$140		\$98,000
2 Exhibit Barriers: 5m high shotcrete walls	450 m <sup>2</sup>	⊕ \$450		\$202,500
3 Exhibit Barriers: 5m high wire/metal	250 lm	⊕ \$500		\$125,000
4 Pool: shotcrete, 0.5m deep	50 m <sup>2</sup>	⊕ \$300		\$15,000
5 Artificial Rockwork - simple: shotcrete	250 m <sup>2</sup>	⊕ \$400		\$100,000
6 Life Support Systems - medium: 26-150 cubic metres per hour filtered	25 m <sup>3</sup>	⊕ \$2,000		\$50,000
7 Night House: remodel existing orangutan night house	100 m <sup>2</sup>	⊕ \$750		\$75,000
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	50 m <sup>2</sup>	⊕ \$500		\$25,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕ \$1,200		\$24,000
10 Glazing: 24 mm thick laminated tempered glass	30 m <sup>2</sup>	⊕ \$2,000		\$60,000
11 Exhibit Furnishings: fallen logs, etc.	1 lsum	⊕ \$20,000		\$20,000

Mandrill Exhibit subtotal: \$794,500

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2.06 Kopje Aviary Exhibit: walk-through  
bird species?

225 m<sup>2</sup> exhibit area  
15 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	148 m <sup>2</sup>	⊕ \$140		\$20,650
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	30 m <sup>2</sup>	⊕ \$200		\$6,000
3 Exhibit Barriers: 5m high wire mesh enclosure	563 m <sup>2</sup>	⊕ \$250		\$140,625
4 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕ \$300		\$3,000
5 Artificial Rockwork - simple: shotcrete	150 m <sup>2</sup>	⊕ \$400		\$60,000
6 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊕ \$4,000		\$20,000
7 Night House, simple: concrete masonry, hidden	15 m <sup>2</sup>	⊕ \$1,500		\$22,500
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>	⊕ \$500		\$10,000
9 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>	⊕ \$1,500		\$30,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊕ \$10,000		\$10,000

Kopje Aviary Exhibit subtotal: \$322,775

2.07 Kopje Exhibits: walk-by

Duiker

?

?

400 m<sup>2</sup> exhibit area  
50 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	375 m <sup>2</sup>	⊕ \$140		\$52,500
2 Exhibit Barriers: remodel existing barrier systems	1 lsum	⊕ \$100,000		\$100,000
3 Artificial Rockwork: remodel and add to existing shotcrete	100 m <sup>2</sup>	⊕ \$400		\$40,000
4 Night Houses: remodel existing	50 m <sup>2</sup>	⊕ \$750		\$37,500
5 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	20 m <sup>2</sup>	⊕ \$500		\$10,000
6 Viewing Shelters: remodel existing	50 m <sup>2</sup>	⊕ \$600		\$30,000
7 Glazing: remodel existing as required	1 lsum	⊕ \$30,000		\$30,000
8 Exhibit Furnishings: perching, fallen trees, etc.	1 lsum	⊕ \$20,000		\$20,000

Kopje Exhibits subtotal: \$320,000

2.08 Fennec Fox Exhibit: walk-by

Fennec Fox

150 m<sup>2</sup> exhibit area  
20 m<sup>2</sup> night house

	Quantity	Unit	Unit Cost	Subtotal
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	103 m <sup>2</sup>	⊕ \$140		\$14,350
2 Exhibit Barriers: 1.8m high shotcrete walls	108 m <sup>2</sup>	⊕ \$350		\$37,800
3 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊕ \$300		\$3,000
4 Artificial Rockwork - simple: shotcrete	150 m <sup>2</sup>	⊕ \$400		\$60,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊕ \$4,000		\$20,000
6 Night House, simple: concrete masonry, hidden	20 m <sup>2</sup>	⊕ \$1,500		\$30,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊕ \$500		\$5,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊕ \$1,200		\$24,000
9 Glazing: 24 mm thick laminated tempered glass	15 m <sup>2</sup>	⊕ \$2,000		\$30,000
10 Exhibit Furnishings: fallen trees, etc.	1 lsum	⊕ \$10,000		\$10,000

Fennec Fox Exhibit subtotal: \$234,150

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3.00 Tropical Woodland

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3.01 Lemur Exhibit: walk-by

	450 m <sup>2</sup> exhibit area 60 m <sup>2</sup> night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	330 m <sup>2</sup>	⊙	\$140	\$46,200
2 Exhibit Barriers: 3m high shotcrete walls	270 m <sup>2</sup>	⊙	\$400	\$108,000
3 Pool: shotcrete, 0.5m deep	20 m <sup>2</sup>	⊙	\$300	\$6,000
4 Artificial Rockwork - simple: shotcrete	100 m <sup>2</sup>	⊙	\$400	\$40,000
5 Life Support Systems - small: 0-25 cubic metres per hour filtered	10 m <sup>3</sup>	⊙	\$4,000	\$40,000
6 Night House, complex: concrete masonry, hidden, complex caging	60 m <sup>2</sup>	⊙	\$2,500	\$150,000
7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	40 m <sup>2</sup>	⊙	\$500	\$20,000
8 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
9 Glazing: 24 mm thick laminated tempered glass	15 m <sup>2</sup>	⊙	\$2,000	\$30,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$20,000	\$20,000

Lemur Exhibit subtotal: **\$484,200**

3.02 Bongo/Duiker Exhibit: walk-by

	1000 m <sup>2</sup> exhibit area 100 m <sup>2</sup> night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	900 m <sup>2</sup>	⊙	\$140	\$126,000
2 Exhibit Barriers: 1.5m high shotcrete walls	210 m <sup>2</sup>	⊙	\$350	\$73,500
3 Pool: shotcrete, 0.5m deep	50 m <sup>2</sup>	⊙	\$300	\$15,000
4 Artificial Rockwork - simple: shotcrete	200 m <sup>2</sup>	⊙	\$400	\$80,000
5 Life Support Systems - medium: 26-150 cubic metres per hour filtered	30 m <sup>3</sup>	⊙	\$2,000	\$60,000
6 Night House, simple: concrete masonry, hidden	100 m <sup>2</sup>	⊙	\$1,500	\$150,000
7 Exterior Off-Exhibit Barriers: 2.4m high wire mesh	40 lm	⊙	\$300	\$12,000
8 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate	200 m <sup>2</sup>	⊙	\$50	\$10,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	20 m <sup>2</sup>	⊙	\$1,200	\$24,000
10 Exhibit Furnishings: fallen trees, etc.	1 lsum	⊙	\$30,000	\$30,000

Bongo/Duiker Exhibit subtotal: **\$580,500**

4.00 Tropical Rainforest

4.01 Chimpanzee Exhibit: remodel existing exhibit

	2000 m <sup>2</sup> exhibit area existing night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Open Exhibits: surfacing, planting, and Irrigation	1450 m <sup>2</sup>	⊙	\$60	\$87,000
2 Exhibit Barriers: modify rear 5m high shotcrete barrier	600 m <sup>2</sup>	⊙	\$250	\$150,000
3 Pool/moat: modify existing shotcrete moat, 1.5m deep	400 m <sup>2</sup>	⊙	\$400	\$160,000
4 Artificial Rockwork - simple: shotcrete	150 m <sup>2</sup>	⊙	\$400	\$60,000
5 Life Support Systems: modify existing system	1 lsum	⊙	\$50,000	\$50,000
6 Night House: minor modifications to existing	1 lsum	⊙	\$50,000	\$50,000
7 Viewing Shelter: wood &/or concrete structure w/ roof	100 m <sup>2</sup>	⊙	\$500	\$50,000
8 Glazing: 48 mm thick laminated tempered glass	40 m <sup>2</sup>	⊙	\$3,500	\$140,000
9 Exhibit Furnishings: climbing structures, down logs, etc.	1 lsum	⊙	\$50,000	\$50,000

Chimpanzee Exhibit subtotal: **\$797,000**

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4.02 Rainforest Aviary Exhibit: walk-through

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	225 m <sup>2</sup> exhibit area 20 m <sup>2</sup> night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	160 m <sup>2</sup>	⊙	\$140	\$22,400
2 Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	30 m <sup>2</sup>	⊙	\$200	\$6,000
3 Exhibit Barriers: 5m high wire mesh enclosure	563 m <sup>2</sup>	⊙	\$250	\$140,625
4 Pool: shotcrete, 0.5m deep	10 m <sup>2</sup>	⊙	\$300	\$3,000
5 Artificial Rockwork - simple: shotcrete	100 m <sup>2</sup>	⊙	\$400	\$40,000
6 Life Support Systems - small: 0-25 cubic metres per hour filtered	5 m <sup>3</sup>	⊙	\$4,000	\$20,000
7 Night House, simple: concrete masonry, hidden	20 m <sup>2</sup>	⊙	\$1,500	\$30,000
8 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	10 m <sup>2</sup>	⊙	\$500	\$5,000
9 Entry/Exit Vestibules: wood &/or concrete & mesh structures	20 m <sup>2</sup>	⊙	\$1,500	\$30,000
10 Exhibit Furnishings: handrails, perching, down logs, etc.	1 lsum	⊙	\$10,000	\$10,000

Rainforest Aviary Exhibit subtotal: **\$307,025**

4.03 Colobus and Duiker Exhibit:

	400 m <sup>2</sup> exhibit area 80 m <sup>2</sup> night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	350 m <sup>2</sup>	⊙	\$140	\$49,000
2 Exhibit Barriers: 5m high wire mesh enclosure	1000 m <sup>2</sup>	⊙	\$250	\$250,000
3 Pool: shotcrete, 0.5m deep	50 m <sup>2</sup>	⊙	\$300	\$15,000
4 Life Support Systems - medium: 26-150 cubic metres per hour filtered	150 m <sup>3</sup>	⊙	\$2,000	\$300,000
5 Night House, complex: concrete masonry, hidden, complex caging	80 m <sup>2</sup>	⊙	\$2,500	\$200,000
6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	40 m <sup>2</sup>	⊙	\$500	\$20,000
7 Viewing Shelter: wood &/or concrete structure w/ roof	40 m <sup>2</sup>	⊙	\$1,200	\$48,000
8 Glazing: 24 mm thick laminated tempered glass	24 m <sup>2</sup>	⊙	\$2,000	\$48,000
9 Exhibit Furnishings: climbing structure	1 lsum	⊙	\$100,000	\$100,000

Colobus and Duiker Exhibit subtotal: **\$1,030,000**

4.04 Pygmy Hippopotamus Exhibit:

	375 m <sup>2</sup> exhibit area 40 m <sup>2</sup> night house		Unit Cost	Subtotal
	Quantity	Unit		
1 Densely Planted Exhibits: surfacing, planting, and Irrigation	150 m <sup>2</sup>	⊙	\$140	\$21,000
2 Exhibit Barriers: 1.5m high shotcrete walls	120 m <sup>2</sup>	⊙	\$350	\$42,000
3 Pool: shotcrete, 2.0m deep	400 m <sup>2</sup>	⊙	\$300	\$120,000
4 Artificial Rockwork - simple: shotcrete	50 m <sup>2</sup>	⊙	\$400	\$20,000
5 Life Support Systems - large: +151 cubic metres per hour filtered	264 m <sup>3</sup>	⊙	\$1,500	\$396,000
6 Night House, complex: concrete masonry, hidden, complex caging	40 m <sup>2</sup>	⊙	\$2,500	\$100,000
7 Exterior Off-Exhibit Enclosures: surfacing only, barrier separate	50 m <sup>2</sup>	⊙	\$50	\$2,500
8 Exterior Off-Exhibit Barriers: 1.5m high	30 lm	⊙	\$300	\$9,000
9 Viewing Shelter: wood &/or concrete structure w/ roof	50 m <sup>2</sup>	⊙	\$1,200	\$60,000
10 Glazing: 60 mm thick laminated tempered glass	30 m <sup>2</sup>	⊙	\$4,500	\$135,000
11 Exhibit Furnishings: down logs, etc.	1 lsum	⊙	\$20,000	\$20,000

Pygmy Hippopotamus Exhibit subtotal: **\$925,500**

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4.05 Gorilla Exhibit: expand and remodel existing exhibit

Gorilla

- 1 Open Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Barriers: modify rear 5m high shotcrete barrier
- 3 Exhibit Barriers: extend rear 5m high shotcrete barrier
- 4 Pool/moat: extend existing shotcrete moat, 1.5m deep
- 5 Artificial Rockwork - simple: shotcrete
- 6 Life Support Systems: modify existing system
- 7 Night House: minor modifications to existing
- 8 Viewing Shelter: wood &/or concrete structure w/ roof
- 9 Glazing: 48 mm thick laminated tempered glass
- 10 Exhibit Furnishings: climbing structures, down logs, etc.

2400 m<sup>2</sup> exhibit area  
 existing night house

Quantity	Unit	Unit Cost	Subtotal
2100 m <sup>2</sup>		⊕ \$60	\$126,000
600 m <sup>2</sup>		⊕ \$250	\$150,000
200 m <sup>2</sup>		⊕ \$450	\$90,000
200 m <sup>2</sup>		⊕ \$450	\$90,000
100 m <sup>2</sup>		⊕ \$400	\$40,000
1 lsum		⊕ \$50,000	\$50,000
1 lsum		⊕ \$50,000	\$50,000
100 m <sup>2</sup>		⊕ \$1,200	\$120,000
60 m <sup>2</sup>		⊕ \$3,500	\$210,000
1 lsum		⊕ \$50,000	\$50,000

Gorilla Exhibit subtotal: **\$976,000**

4.06 Debrazza Exhibit: remodel existing exhibit

Debrazza Monkey

- 1 Miscellaneous improvements

300 m<sup>2</sup> exhibit area  
 existing night house

Quantity	Unit	Unit Cost	Subtotal
1 lsum		⊕ \$100,000	\$100,000

Debrazza Exhibit subtotal: **\$100,000**

Total of Subtotals: **\$17,091,100**

Contingency at 10%: \$1,709,110

Professional Fees, Testing, Construction Administration at 25%: \$4,700,053

Africa Total: **\$23,500,263**

F. Asia

1.00 General Site Work, Public Spaces, and Interpretation:

- 1 Site Demolition
- 2 Interpretive Media
- 3 Main Visitor Pathway: base, surfacing, visitor barrier, storm drainage
- 4 Buffer Plantings: soil preparation and planting
- 5 Earthwork: balanced cut and fill
- 6 Rock Excavation: allowance
- 7 Irrigation: dense planting
- 8 Service Road: base, surfacing, storm drainage
- 9 Utility Services: water, power, sewers

23,900 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
23,900 m <sup>2</sup>		⊕ \$5	\$119,500
10 %		⊕ \$44,000,000	\$4,400,000
240 m <sup>2</sup>		⊕ \$300	\$72,000
8990 m <sup>2</sup>		⊕ \$120	\$1,078,800
5975 m <sup>2</sup>		⊕ \$50	\$298,750
2390 m <sup>2</sup>		⊕ \$300	\$717,000
8990 m <sup>2</sup>		⊕ \$20	\$179,800
100 m <sup>2</sup>		⊕ \$50	\$5,000
15 %		⊕ \$44,000,000	\$6,600,000

subtotal: **\$13,470,850**

2.00 Tropical Rainforest:

2.01 Asian Elephant Exhibit Complex:

- Asian Elephant
- Malaysian Tapir
- Gibbons
- Small Clawed Otter

10400 m<sup>2</sup> exhibit area

Proposed Asian Elephant Exhibit Complex subtotal: **\$15,000,000**

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

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3.00 Highlands

3.01 Sun Bear Exhibit (renovate existing brown bear)

Asian Sun Bear

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Barriers: 4m high shotcrete walls and moat, existing
- 3 Pool: shotcrete, 1m deep
- 4 Climbing Structure
- 5 Life Support Systems - medium: 26-150 cubic metres per hour filtered
- 6 Night House: renovate existing
- 7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab
- 8 Viewing Shelter: wood &/or concrete structure w/ roof
- 9 Glazing: 48 mm thick laminated tempered glass
- 10 Exhibit Furnishings: fallen trees, etc.

800 m<sup>2</sup> exhibit area  
 40 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
700 m <sup>2</sup>		⊕ \$140	\$98,000
existing m <sup>2</sup>		⊕ \$0	\$0
100 m <sup>2</sup>		⊕ \$300	\$30,000
1 lsum		⊕ \$100,000	\$100,000
100 m <sup>2</sup>		⊕ \$2,000	\$200,000
40 m <sup>2</sup>		⊕ \$250	\$10,000
20 m <sup>2</sup>		⊕ \$500	\$10,000
20 m <sup>2</sup>		⊕ \$1,200	\$24,000
15 m <sup>2</sup>		⊕ \$3,500	\$52,500
1 LS		⊕ \$50,000	\$50,000

Sun Bear Exhibit subtotal: **\$574,500**

3.02 Asian Aviary A:

Asian pheasant species and/or?

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Barriers: 5m high wire mesh enclosure
- 3 Stream: shotcrete, 0.25m deep
- 4 Artificial Rockwork - complex: shotcrete
- 5 Life Support Systems - small: 0-25 cubic metres per hour filtered
- 6 Night House, simple: concrete masonry, hidden
- 7 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab
- 8 Viewing Shelter: wood &/or concrete structure w/ roof
- 9 Glazing: 12 mm thick laminated tempered glass
- 10 Exhibit Furnishings: perching, down logs, etc.

150 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>		⊕ \$140	\$14,000
375 m <sup>2</sup>		⊕ \$250	\$93,750
20 m <sup>2</sup>		⊕ \$300	\$6,000
50 m <sup>2</sup>		⊕ \$600	\$30,000
10 m <sup>3</sup>		⊕ \$4,000	\$40,000
10 m <sup>2</sup>		⊕ \$1,500	\$15,000
20 m <sup>2</sup>		⊕ \$500	\$10,000
20 m <sup>2</sup>		⊕ \$1,200	\$24,000
15 m <sup>2</sup>		⊕ \$1,500	\$22,500
1 LS		⊕ \$30,000	\$30,000

Asian Aviary A subtotal: **\$285,250**

3.03 Tiger Exhibit: renovation

Tiger

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Barriers: existing 6m shotcrete walls
- 3 Pool: shotcrete, 1.5m deep
- 4 Life Support Systems - medium: 26-150 cubic metres per hour filtered
- 5 Night House: renovate existing
- 6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab
- 7 Exhibit Furnishings: fallen logs, etc.

800 m<sup>2</sup> exhibit area  
 96 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
750 m <sup>2</sup>		⊕ \$140	\$105,000
0 m <sup>2</sup>		⊕ \$500	\$0
50 m <sup>2</sup>		⊕ \$300	\$15,000
75 m <sup>3</sup>		⊕ \$2,000	\$150,000
96 m <sup>2</sup>		⊕ \$750	\$72,000
50 m <sup>2</sup>		⊕ \$1,000	\$50,000
1 LS		⊕ \$40,000	\$40,000

Tiger Exhibit subtotal: **\$432,000**

3.04 Snow Leopard Exhibit: renovation

Snow Leopard

- 1 Densely Planted Exhibits: surfacing, planting, and Irrigation
- 2 Exhibit Barriers: existing 6m shotcrete walls
- 3 Stream: shotcrete, 0.25m deep
- 4 Life Support Systems - small: 0-25 cubic metres per hour filtered
- 5 Night House: renovate existing
- 6 Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab
- 7 Exhibit Furnishings: fallen logs, etc.

375 m<sup>2</sup> exhibit area  
 40 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
350 m <sup>2</sup>		⊕ \$140	\$49,000
0 m <sup>2</sup>		⊕ \$500	\$0
25 m <sup>2</sup>		⊕ \$300	\$7,500
25 m <sup>3</sup>		⊕ \$4,000	\$100,000
40 m <sup>2</sup>		⊕ \$250	\$10,000
20 m <sup>2</sup>		⊕ \$1,000	\$20,000
1 LS		⊕ \$30,000	\$30,000

Snow Leopard Exhibit subtotal: **\$216,500**

120 m<sup>2</sup> exhibit area

Asian Aviary B

Quantity	Unit	Unit Cost	Subtotal
95 m <sup>2</sup>	•	\$140	\$13,300
300 m <sup>2</sup>	•	\$250	\$75,000
20 m <sup>2</sup>	•	\$300	\$6,000
50 m <sup>2</sup>	•	\$600	\$30,000
10 m <sup>2</sup>	•	\$4,000	\$40,000
10 m <sup>2</sup>	•	\$1,500	\$15,000
20 m <sup>2</sup>	•	\$500	\$10,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$30,000	\$30,000
Subtotal			\$265,800

420 m<sup>2</sup> exhibit area

Dhole

Quantity	Unit	Unit Cost	Subtotal
270 m <sup>2</sup>	•	\$140	\$37,800
80 lm	•	\$200	\$16,000
240 m <sup>2</sup>	•	\$300	\$72,000
60 m <sup>2</sup>	•	\$400	\$24,000
40 m <sup>2</sup>	•	\$2,000	\$80,000
40 m <sup>2</sup>	•	\$1,500	\$60,000
40 m <sup>2</sup>	•	\$50	\$5,000
100 m <sup>2</sup>	•	\$1,200	\$120,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 Isum	•	\$20,000	\$20,000
Subtotal			\$361,300

Taronga Zoo Master Plan  
Exhibit Brief and Capital Construction Costs  
3.08 Asian Aviary B:  
Asian pheasant species

10 m<sup>2</sup> exhibit area

Asian Aviary B

Quantity	Unit	Unit Cost	Subtotal
95 m <sup>2</sup>	•	\$140	\$13,300
300 m <sup>2</sup>	•	\$250	\$75,000
20 m <sup>2</sup>	•	\$300	\$6,000
50 m <sup>2</sup>	•	\$600	\$30,000
10 m <sup>2</sup>	•	\$4,000	\$40,000
10 m <sup>2</sup>	•	\$1,500	\$15,000
20 m <sup>2</sup>	•	\$500	\$10,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$30,000	\$30,000
Subtotal			\$265,800

420 m<sup>2</sup> exhibit area

Dhole

Quantity	Unit	Unit Cost	Subtotal
270 m <sup>2</sup>	•	\$140	\$37,800
80 lm	•	\$200	\$16,000
240 m <sup>2</sup>	•	\$300	\$72,000
60 m <sup>2</sup>	•	\$400	\$24,000
40 m <sup>2</sup>	•	\$2,000	\$80,000
40 m <sup>2</sup>	•	\$1,500	\$60,000
40 m <sup>2</sup>	•	\$50	\$5,000
100 m <sup>2</sup>	•	\$1,200	\$120,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 Isum	•	\$20,000	\$20,000
Subtotal			\$361,300

3.09 Dhole Exhibit:

240 m<sup>2</sup> exhibit area

Golden Cat

Quantity	Unit	Unit Cost	Subtotal
125 m <sup>2</sup>	•	\$140	\$17,500
50 lm	•	\$200	\$10,000
180 m <sup>2</sup>	•	\$300	\$54,000
50 m <sup>2</sup>	•	\$400	\$20,000
30 m <sup>2</sup>	•	\$2,000	\$60,000
25 m <sup>2</sup>	•	\$1,500	\$37,500
50 m <sup>2</sup>	•	\$50	\$2,500
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 Isum	•	\$20,000	\$20,000
Subtotal			\$268,000

Golden Cat Exhibit:

1	Densely Planted Exhibits: surfacing, planting, and irrigation
2	Exhibit and Off-exhibit Barrier: 2m high fence
3	Water Moat: shotcrete, 0.5m deep, 4m wide
4	Artificial Rockwork - simple: shotcrete
5	Life Support Systems - medium: 26-150 cubic metres per hour filtered
6	Night House, simple: concrete masonry, hidden
7	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
8	Viewing Shelter: wood &/or concrete structure w/ roof
9	Glazing: 12 mm thick laminated tempered glass
10	Exhibit Furnishings: downed logs, etc.

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240 m<sup>2</sup> exhibit area

Red Panda

Quantity	Unit	Unit Cost	Subtotal
200 m <sup>2</sup>	•	\$140	\$28,000
120 m <sup>2</sup>	•	\$350	\$42,000
40 m <sup>2</sup>	•	\$300	\$12,000
20 m <sup>2</sup>	•	\$4,000	\$80,000
24 m <sup>2</sup>	•	\$1,500	\$36,000
18 lm	•	\$200	\$3,600
20 m <sup>2</sup>	•	\$1,200	\$24,000
20 m <sup>2</sup>	•	\$50	\$1,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$20,000	\$20,000
Subtotal			\$269,100

750 m<sup>2</sup> exhibit area

Tahr

Quantity	Unit	Unit Cost	Subtotal
500 m <sup>2</sup>	•	\$140	\$70,000
275 m <sup>2</sup>	•	\$375	\$103,125
100 m <sup>2</sup>	•	\$300	\$30,000
150 m <sup>2</sup>	•	\$400	\$60,000
25 m <sup>2</sup>	•	\$4,000	\$100,000
80 m <sup>2</sup>	•	\$1,500	\$120,000
80 m <sup>2</sup>	•	\$50	\$4,000
80 lm	•	\$300	\$24,000
40 m <sup>2</sup>	•	\$1,200	\$48,000
1 LS	•	\$20,000	\$20,000
Subtotal			\$579,125

120 m<sup>2</sup> exhibit area

Porcupine

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>	•	\$140	\$14,000
88 m <sup>2</sup>	•	\$350	\$30,800
20 m <sup>2</sup>	•	\$300	\$6,000
10 m <sup>2</sup>	•	\$4,000	\$40,000
12 m <sup>2</sup>	•	\$1,500	\$18,000
10 m <sup>2</sup>	•	\$50	\$500
16 lm	•	\$200	\$3,200
15 m <sup>2</sup>	•	\$1,200	\$18,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$20,000	\$20,000
Subtotal			\$173,000

Porcupine Exhibit:

1	Densely Planted Exhibits: surfacing, planting, and irrigation
2	Exhibit Barriers: 2m high shotcrete walls
3	Pool: shotcrete, 0.5m deep
4	Life Support Systems - small: 0.25 cubic metres per hour filtered
5	Night House, simple: concrete masonry, hidden
6	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
7	Exterior Off-Exhibit Enclosures: 2m high wire mesh
8	Viewing Shelter: wood &/or concrete structure w/ roof
9	Glazing: 12 mm thick laminated tempered glass
10	Exhibit Furnishings: sheltered nests, fallen trees, etc.

Taronga Zoo Master Plan  
Exhibit Brief and Capital Construction Costs  
3.05 Red Panda Exhibit

12 m<sup>2</sup> exhibit area

Red Panda

Quantity	Unit	Unit Cost	Subtotal
200 m <sup>2</sup>	•	\$140	\$28,000
120 m <sup>2</sup>	•	\$350	\$42,000
40 m <sup>2</sup>	•	\$300	\$12,000
20 m <sup>2</sup>	•	\$4,000	\$80,000
24 m <sup>2</sup>	•	\$1,500	\$36,000
18 lm	•	\$200	\$3,600
20 m <sup>2</sup>	•	\$1,200	\$24,000
20 m <sup>2</sup>	•	\$50	\$1,000
20 m <sup>2</sup>	•	\$1,200	\$24,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$20,000	\$20,000
Subtotal			\$269,100

750 m<sup>2</sup> exhibit area

Tahr

Quantity	Unit	Unit Cost	Subtotal
500 m <sup>2</sup>	•	\$140	\$70,000
275 m <sup>2</sup>	•	\$375	\$103,125
100 m <sup>2</sup>	•	\$300	\$30,000
150 m <sup>2</sup>	•	\$400	\$60,000
25 m <sup>2</sup>	•	\$4,000	\$100,000
80 m <sup>2</sup>	•	\$1,500	\$120,000
80 m <sup>2</sup>	•	\$50	\$4,000
80 lm	•	\$300	\$24,000
40 m <sup>2</sup>	•	\$1,200	\$48,000
1 LS	•	\$20,000	\$20,000
Subtotal			\$579,125

120 m<sup>2</sup> exhibit area

Porcupine

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>	•	\$140	\$14,000
88 m <sup>2</sup>	•	\$350	\$30,800
20 m <sup>2</sup>	•	\$300	\$6,000
10 m <sup>2</sup>	•	\$4,000	\$40,000
12 m <sup>2</sup>	•	\$1,500	\$18,000
10 m <sup>2</sup>	•	\$50	\$500
16 lm	•	\$200	\$3,200
15 m <sup>2</sup>	•	\$1,200	\$18,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$20,000	\$20,000
Subtotal			\$173,000

Porcupine Exhibit:

1	Densely Planted Exhibits: surfacing, planting, and irrigation
2	Exhibit Barriers: 2m high shotcrete walls
3	Pool: shotcrete, 0.5m deep
4	Life Support Systems - small: 0.25 cubic metres per hour filtered
5	Night House, simple: concrete masonry, hidden
6	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
7	Exterior Off-Exhibit Enclosures: 2m high wire mesh
8	Viewing Shelter: wood &/or concrete structure w/ roof
9	Glazing: 12 mm thick laminated tempered glass
10	Exhibit Furnishings: sheltered nests, fallen trees, etc.

3.06 Tahr Exhibit: removal of existing goat mountain

80 m<sup>2</sup> exhibit house

Tahr

Quantity	Unit	Unit Cost	Subtotal
500 m <sup>2</sup>	•	\$140	\$70,000
275 m <sup>2</sup>	•	\$375	\$103,125
100 m <sup>2</sup>	•	\$300	\$30,000
150 m <sup>2</sup>	•	\$400	\$60,000
25 m <sup>2</sup>	•	\$4,000	\$100,000
80 m <sup>2</sup>	•	\$1,500	\$120,000
80 m <sup>2</sup>	•	\$50	\$4,000
80 lm	•	\$300	\$24,000
40 m <sup>2</sup>	•	\$1,200	\$48,000
1 LS	•	\$20,000	\$20,000
Subtotal			\$579,125

120 m<sup>2</sup> exhibit area

Porcupine

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>	•	\$140	\$14,000
88 m <sup>2</sup>	•	\$350	\$30,800
20 m <sup>2</sup>	•	\$300	\$6,000
10 m <sup>2</sup>	•	\$4,000	\$40,000
12 m <sup>2</sup>	•	\$1,500	\$18,000
10 m <sup>2</sup>	•	\$50	\$500
16 lm	•	\$200	\$3,200
15 m <sup>2</sup>	•	\$1,200	\$18,000
15 m <sup>2</sup>	•	\$1,500	\$22,500
1 LS	•	\$20,000	\$20,000
Subtotal			\$173,000

Porcupine Exhibit:

1	Densely Planted Exhibits: surfacing, planting, and irrigation
2	Exhibit Barriers: 2m high shotcrete walls
3	Pool: shotcrete, 0.5m deep
4	Life Support Systems - small: 0.25 cubic metres per hour filtered
5	Night House, simple: concrete masonry, hidden
6	Exterior Off-Exhibit Enclosures: surfacing only, barrier separate
7	Exterior Off-Exhibit Enclosures: 2m high wire mesh
8	Viewing Shelter: wood &/or concrete structure w/ roof
9	Glazing: 12 mm thick laminated tempered glass
10	Exhibit Furnishings: sheltered nests, fallen trees, etc.

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250 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
223 m <sup>2</sup>	①	\$140	\$31,150
90 m <sup>2</sup>	②	\$300	\$27,000
45 lm	③	\$150	\$6,750
15 m <sup>2</sup>	④	\$300	\$4,500
25 m <sup>2</sup>	⑤	\$400	\$10,000
8 m <sup>2</sup>	⑥	\$4,000	\$30,000
10 m <sup>2</sup>	⑦	\$1,500	\$15,000
50 m <sup>2</sup>	⑧	\$500	\$25,000
20 m <sup>2</sup>	⑨	\$1,200	\$24,000
Subtotal			\$173,400

100 m<sup>2</sup> exhibit area  
 20 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
90 m <sup>2</sup>	①	\$140	\$12,600
50 lm	②	\$150	\$7,500
10 m <sup>2</sup>	③	\$300	\$3,000
5 m <sup>2</sup>	④	\$4,000	\$20,000
20 m <sup>2</sup>	⑤	\$1,500	\$30,000
20 m <sup>2</sup>	⑥	\$500	\$10,000
12 m <sup>2</sup>	⑦	\$1,200	\$14,400
1 lum	⑧	\$20,000	\$20,000
Subtotal			\$117,500

100 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>	①	\$140	\$14,000
250 m <sup>2</sup>	②	\$250	\$62,500
10 m <sup>2</sup>	③	\$300	\$3,000
3 ea	④	\$25,000	\$75,000
5 m <sup>2</sup>	⑤	\$4,000	\$20,000
10 m <sup>2</sup>	⑥	\$1,500	\$15,000
50 m <sup>2</sup>	⑦	\$500	\$25,000
20 m <sup>2</sup>	⑧	\$1,200	\$24,000
15 m <sup>2</sup>	⑨	\$1,500	\$22,500
1 lum	⑩	\$20,000	\$20,000
Subtotal			\$281,000

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2.02 Dwarf Cassowary Exhibit  
 Dwarf Cassowary (1.10) Casualtus bennetti

2.03 Tree Kangaroo / Echidna Exhibit  
 Goodfellow's Tree Kangaroo (2.20)

2.04 Cuscus / Glider Exhibit  
 Spotted Cuscus  
 Ground Cuscus  
 Sugar Glider

Quantity	Unit	Unit Cost	Subtotal
100 m <sup>2</sup>	①	\$140	\$14,000
250 m <sup>2</sup>	②	\$250	\$62,500
10 m <sup>2</sup>	③	\$300	\$3,000
3 ea	④	\$25,000	\$75,000
5 m <sup>2</sup>	⑤	\$4,000	\$20,000
10 m <sup>2</sup>	⑥	\$1,500	\$15,000
50 m <sup>2</sup>	⑦	\$500	\$25,000
20 m <sup>2</sup>	⑧	\$1,200	\$24,000
15 m <sup>2</sup>	⑨	\$1,500	\$22,500
1 lum	⑩	\$20,000	\$20,000
Subtotal			\$281,000

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120 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
95 m <sup>2</sup>	①	\$140	\$13,300
300 m <sup>2</sup>	②	\$250	\$75,000
20 m <sup>2</sup>	③	\$300	\$6,000
50 m <sup>2</sup>	④	\$600	\$30,000
10 m <sup>2</sup>	⑤	\$4,000	\$40,000
10 m <sup>2</sup>	⑥	\$1,500	\$15,000
20 m <sup>2</sup>	⑦	\$500	\$10,000
20 m <sup>2</sup>	⑧	\$1,200	\$24,000
15 m <sup>2</sup>	⑨	\$1,500	\$22,500
1 LS	⑩	\$30,000	\$30,000
Subtotal			\$265,800

Total of Subtotals: \$32,161,225

Contingency at 10%: \$3,216,123  
 Professional Fees, Testing, Construction Administration at 25%: \$8,044,337

Asia Total: \$44,221,684

5,100 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
5,100 m <sup>2</sup>	①	\$5	\$25,500
10 %	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

Wallaby/Padamelon Exhibit subtotal: \$191,100

Quantity	Unit	Unit Cost	Subtotal
140 m <sup>2</sup>	①	\$140	\$19,600
100 lm	②	\$200	\$20,000
160 m <sup>2</sup>	③	\$350	\$56,000
10 m <sup>2</sup>	④	\$300	\$3,000
25 m <sup>2</sup>	⑤	\$400	\$10,000
5 m <sup>2</sup>	⑥	\$4,000	\$20,000
20 m <sup>2</sup>	⑦	\$1,500	\$30,000
50 m <sup>2</sup>	⑧	\$50	\$2,500
30 lm	⑨	\$200	\$6,000
20 m <sup>2</sup>	⑩	\$1,200	\$24,000
Subtotal			\$191,100

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 Exhibit Brief and Capital Construction Costs

3.11 Asian Aviary C  
 Asian pheasant species and/or ?

120 m<sup>2</sup> exhibit area  
 10 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
95 m <sup>2</sup>	①	\$140	\$13,300
300 m <sup>2</sup>	②	\$250	\$75,000
20 m <sup>2</sup>	③	\$300	\$6,000
50 m <sup>2</sup>	④	\$600	\$30,000
10 m <sup>2</sup>	⑤	\$4,000	\$40,000
10 m <sup>2</sup>	⑥	\$1,500	\$15,000
20 m <sup>2</sup>	⑦	\$500	\$10,000
20 m <sup>2</sup>	⑧	\$1,200	\$24,000
15 m <sup>2</sup>	⑨	\$1,500	\$22,500
1 LS	⑩	\$30,000	\$30,000
Subtotal			\$265,800

Total of Subtotals: \$32,161,225

Contingency at 10%: \$3,216,123  
 Professional Fees, Testing, Construction Administration at 25%: \$8,044,337

Asia Total: \$44,221,684

5,100 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
5,100 m <sup>2</sup>	①	\$5	\$25,500
10 %	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

Wallaby/Padamelon Exhibit subtotal: \$191,100

Quantity	Unit	Unit Cost	Subtotal
140 m <sup>2</sup>	①	\$140	\$19,600
100 lm	②	\$200	\$20,000
160 m <sup>2</sup>	③	\$350	\$56,000
10 m <sup>2</sup>	④	\$300	\$3,000
25 m <sup>2</sup>	⑤	\$400	\$10,000
5 m <sup>2</sup>	⑥	\$4,000	\$20,000
20 m <sup>2</sup>	⑦	\$1,500	\$30,000
50 m <sup>2</sup>	⑧	\$50	\$2,500
30 lm	⑨	\$200	\$6,000
20 m <sup>2</sup>	⑩	\$1,200	\$24,000
Subtotal			\$191,100

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>	⑧	\$50	\$5,000
15 %	⑨	\$4,900,000	\$735,000
Subtotal:			\$1,878,660

2.00 Exhibits

2.01 Wallaby/Padamelon Exhibit  
 Dorcopsis Wallaby  
 Red Legged Padamelon

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition	①	\$5	\$25,500
1,000 General Site Work, Public Spaces, and Interpretation	②	\$490,000	\$4,900,000
720 m <sup>2</sup>	③	\$300	\$216,000
1907 m <sup>2</sup>	④	\$120	\$228,780
1275 m <sup>2</sup>	⑤	\$50	\$63,750
255 m <sup>2</sup>	⑥	\$300	\$76,500
1907 m <sup>2</sup>	⑦	\$20	\$38,130
100 m <sup>2</sup>			

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10 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
2	m <sup>2</sup>	\$140	\$280
12	m <sup>2</sup>	\$300	\$3,600
6	m <sup>2</sup>	\$300	\$1,800
2	m <sup>2</sup>	\$600	\$1,200
6	m <sup>2</sup>	\$4,000	\$24,000
2	m <sup>2</sup>	\$2,500	\$5,000
10	m <sup>2</sup>	\$1,200	\$12,000
5	m <sup>2</sup>	\$2,000	\$9,000
1	lsun	\$5,000	\$5,000

Turtle Exhibit subtotal: \$61,880

6 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
5	m <sup>2</sup>	\$140	\$700
24	m <sup>2</sup>	\$1,500	\$36,000
1	m <sup>2</sup>	\$600	\$600
2	m <sup>2</sup>	\$4,000	\$8,000
10	m <sup>2</sup>	\$1,200	\$12,000
1	lsun	\$10,000	\$10,000

Scrub Python Exhibit subtotal: \$67,300

3 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
2	m <sup>2</sup>	\$140	\$280
15	m <sup>2</sup>	\$1,500	\$22,500
1	m <sup>2</sup>	\$600	\$600
2	m <sup>2</sup>	\$4,000	\$8,000
10	m <sup>2</sup>	\$1,200	\$12,000
1	lsun	\$10,000	\$10,000

Green Python Exhibit subtotal: \$53,380

3 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
2	m <sup>2</sup>	\$140	\$280
15	m <sup>2</sup>	\$1,500	\$22,500
1	m <sup>2</sup>	\$600	\$600
2	m <sup>2</sup>	\$4,000	\$8,000
10	m <sup>2</sup>	\$1,200	\$12,000
1	lsun	\$10,000	\$10,000

Crocodile Skink Exhibit subtotal: \$53,380

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

2.08 Turtle Exhibit:  
 Fig-nosed Turtle

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$9,000	\$9,000
2	Exhibit Barriers: 1m high shotcrete walls	\$1,500	\$3,000
3	Pool: shotcrete, 0.5m deep	\$4,000	\$12,000
4	Artificial Rockwork - complex: shotcrete	\$4,000	\$16,000
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$10,000	\$50,000
6	Night House, complex: concrete masonry, hidden, complex caging	\$7,500	\$37,500
7	Viewing Shelter: wood &/or concrete structure w/ roof	\$14,400	\$14,400
8	Glazing: 24 mm thick laminated tempered glass	\$12,000	\$12,000
9	Exhibit Furnishings: downed logs, etc.	\$10,000	\$10,000

2.09 Scrub Python Exhibit:  
 Scrub Python

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$7,700	\$7,700
55	m <sup>2</sup>	\$140	\$7,700
250	m <sup>2</sup>	\$200	\$50,000
25	m <sup>2</sup>	\$300	\$7,500
4	Pool: shotcrete, 0.5m deep	\$300	\$1,200
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$20,000
13	m <sup>2</sup>	\$4,000	\$52,000
10	m <sup>2</sup>	\$1,500	\$15,000
20	m <sup>2</sup>	\$500	\$10,000
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	\$1,500	\$10,500
8	Entry/Exit Vestibules: wood &/or concrete structure w/ roof	\$1,200	\$9,600
10	Exhibit Furnishings: perching, etc.	\$20,000	\$20,000

2.10 Green Python Exhibit:  
 Scrub Python

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$140	\$140
2	Exhibit Barriers: 3m high glass enclosure	\$1,500	\$3,000
3	Pool: shotcrete, 0.5m deep	\$600	\$1,800
4	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$16,000
5	Viewing Shelter: wood &/or concrete structure w/ roof	\$1,200	\$6,000
6	Exhibit Furnishings: downed logs, etc.	\$10,000	\$10,000

2.11 Crocodile Skink Exhibit:  
 Scrub Python

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$140	\$140
2	Exhibit Barriers: 3m high glass enclosure	\$1,500	\$3,000
3	Pool: shotcrete, 0.5m deep	\$600	\$1,800
4	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$16,000
5	Viewing Shelter: wood &/or concrete structure w/ roof	\$1,200	\$6,000
6	Exhibit Furnishings: downed logs, etc.	\$10,000	\$10,000

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50 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
45	m <sup>2</sup>	\$140	\$6,300
30	m <sup>2</sup>	\$300	\$9,000
5	m <sup>2</sup>	\$300	\$1,500
10	m <sup>2</sup>	\$400	\$4,000
3	m <sup>2</sup>	\$4,000	\$12,000
5	m <sup>2</sup>	\$1,500	\$7,500
20	m <sup>2</sup>	\$500	\$10,000
12	m <sup>2</sup>	\$1,200	\$14,400
8	m <sup>2</sup>	\$1,500	\$12,000
1	lsun	\$10,000	\$10,000

Short-beaked Echidna Exhibit subtotal: \$84,700

100 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
55	m <sup>2</sup>	\$140	\$7,700
250	m <sup>2</sup>	\$200	\$50,000
25	m <sup>2</sup>	\$300	\$7,500
4	Pool: shotcrete, 0.5m deep	\$300	\$1,200
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$20,000
13	m <sup>2</sup>	\$4,000	\$52,000
10	m <sup>2</sup>	\$1,500	\$15,000
20	m <sup>2</sup>	\$500	\$10,000
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	\$1,500	\$10,500
8	Entry/Exit Vestibules: wood &/or concrete structure w/ roof	\$1,200	\$9,600
10	Exhibit Furnishings: perching, etc.	\$20,000	\$20,000

200 m<sup>2</sup> exhibit area

Quantity	Unit	Unit Cost	Subtotal
130	m <sup>2</sup>	\$140	\$18,200
500	m <sup>2</sup>	\$250	\$125,000
30	m <sup>2</sup>	\$400	\$12,000
4	Pool: shotcrete, 0.5m deep	\$300	\$1,200
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$20,000
10	m <sup>2</sup>	\$4,000	\$40,000
15	m <sup>2</sup>	\$1,500	\$22,500
30	m <sup>2</sup>	\$500	\$15,000
20	m <sup>2</sup>	\$1,200	\$24,000
1	lsun	\$20,000	\$20,000

New Guinea Aviary subtotal: \$316,700

15 m<sup>2</sup> night house

Quantity	Unit	Unit Cost	Subtotal
15	m <sup>2</sup> night house	\$18,200	\$273,000

Taronga Zoo Master Plan  
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2.05 Short-beaked Echidna Exhibit:  
 Short-beaked Echidna (Gaglossus)

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$9,000	\$9,000
2	Exhibit Barriers: 1m high shotcrete walls	\$1,500	\$3,000
3	Pool: shotcrete, 0.5m deep	\$400	\$1,200
4	Artificial Rockwork - simple: shotcrete	\$400	\$1,600
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$10,000	\$50,000
6	Night House, simple: concrete masonry, hidden	\$7,500	\$37,500
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	\$500	\$3,750
8	Viewing Shelter: wood &/or concrete structure w/ roof	\$1,200	\$9,600
9	Glazing: 12 mm thick laminated tempered glass	\$1,500	\$12,000
10	Exhibit Furnishings: down logs, etc.	\$10,000	\$10,000

2.06 Fruit-Bat Exhibit: walk-through?  
 Fruit Bat

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$7,700	\$7,700
55	m <sup>2</sup>	\$140	\$7,700
250	m <sup>2</sup>	\$200	\$50,000
25	m <sup>2</sup>	\$300	\$7,500
4	Pool: shotcrete, 0.5m deep	\$300	\$1,200
5	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$20,000
13	m <sup>2</sup>	\$4,000	\$52,000
10	m <sup>2</sup>	\$1,500	\$15,000
20	m <sup>2</sup>	\$500	\$10,000
7	Exterior Off-Exhibit Enclosures: mesh walls & roof w/ concrete slab	\$1,500	\$10,500
8	Entry/Exit Vestibules: wood &/or concrete structure w/ roof	\$1,200	\$9,600
10	Exhibit Furnishings: perching, etc.	\$20,000	\$20,000

2.07 New Guinea Aviary: walk-through  
 bird species?

Quantity	Unit	Unit Cost	Subtotal
1	Densely Planted Exhibits: surfacing, planting, and irrigation	\$140	\$140
2	Exhibit Pathway: base, surfacing, visitor barrier, storm drainage	\$200	\$400
3	Exhibit Barriers: 5m high wire mesh enclosure	\$250	\$750
4	Pool: shotcrete, 0.5m deep	\$300	\$1,200
5	Artificial Rockwork - simple: shotcrete	\$400	\$1,600
6	Life Support Systems - small: 0.25 cubic metres per hour filtered	\$4,000	\$16,000
10	m <sup>2</sup>	\$4,000	\$40,000
15	m <sup>2</sup>	\$1,500	\$22,500
30	m <sup>2</sup>	\$500	\$15,000
20	m <sup>2</sup>	\$1,200	\$24,000
1	lsun	\$20,000	\$20,000

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15 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
15 m <sup>2</sup>	●	\$2,200	\$33,000
15 m <sup>2</sup>	●	\$500	\$7,500
Information subtotal:			\$40,500

120 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
120 m <sup>2</sup>	●	\$3,000	\$360,000
120 m <sup>2</sup>	●	\$750	\$90,000
Toilets subtotal:			\$450,000

1525 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
650 m <sup>2</sup>	●	\$750	\$487,500
700 m <sup>2</sup>	●	\$2,200	\$1,540,000
75 m <sup>2</sup>	●	\$3,000	\$225,000
100 m <sup>2</sup>	●	\$1,800	\$180,000
1350 m <sup>2</sup>	●	\$500	\$675,000
Toilets subtotal:			\$3,107,500

800 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
600 m <sup>2</sup>	●	\$2,200	\$1,320,000
50 m <sup>2</sup>	●	\$3,000	\$150,000
50 m <sup>2</sup>	●	\$750	\$37,500
150 m <sup>2</sup>	●	\$1,800	\$270,000
800 m <sup>2</sup>	●	\$500	\$400,000
Toilets subtotal:			\$2,177,500

Total of Subtotals: **\$19,081,460**  
 Contingency at 10%: \$1,908,146  
 Professional Fees, Testing, Construction Administration at 25%: \$5,247,402  
 Entry Redevelopment Total: **\$26,237,008**

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

5.00 Information Kiosk:	1 Building	15 m <sup>2</sup>	●	\$2,200	\$33,000
	2 Furnishings	15 m <sup>2</sup>	●	\$500	\$7,500
6.00 Toilets: female-6 toilets, male-2 toilets, 4 urinals	1 Building	120 m <sup>2</sup>	●	\$3,000	\$360,000
	2 Fixtures	120 m <sup>2</sup>	●	\$750	\$90,000
7.00 Education Building	1 Remodel Existing Building	650 m <sup>2</sup>	●	\$750	\$487,500
	2 New Building, Visitor Accessible Areas	700 m <sup>2</sup>	●	\$2,200	\$1,540,000
	3 Kitchens, and Toilets	75 m <sup>2</sup>	●	\$3,000	\$225,000
	4 Staff and Storage Areas	100 m <sup>2</sup>	●	\$1,800	\$180,000
	5 Furnishings	1350 m <sup>2</sup>	●	\$500	\$675,000
8.00 Temporary Exhibition Pavilion	1 Visitor Accessible Areas	600 m <sup>2</sup>	●	\$2,200	\$1,320,000
	2 Toilets	50 m <sup>2</sup>	●	\$3,000	\$150,000
	3 Fixtures	50 m <sup>2</sup>	●	\$750	\$37,500
	4 Staff and Storage Areas	150 m <sup>2</sup>	●	\$1,800	\$270,000
	5 Furnishings	800 m <sup>2</sup>	●	\$500	\$400,000

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3 m <sup>2</sup> exhibit area	Quantity Unit	Unit Cost	Subtotal
2 m <sup>2</sup>	●	\$140	\$280
15 m <sup>2</sup>	●	\$1,500	\$22,500
1 m <sup>2</sup>	●	\$600	\$600
2 m <sup>2</sup>	●	\$4,000	\$8,000
10 m <sup>2</sup>	●	\$1,200	\$12,000
1 Isum	●	\$10,000	\$10,000
Gecko Exhibit subtotal:			\$53,380

Total of Subtotals: **\$3,563,080**  
 Contingency at 10%: \$356,308  
 Professional Fees, Testing, Construction Administration at 25%: \$979,847  
 Papua New Guinea Total: **\$4,899,235**

25,200 m <sup>2</sup> area	Quantity Unit	Unit Cost	Subtotal
25,200 m <sup>2</sup>	●	\$5	\$126,000
5 %	●	\$26,000,000	\$1,300,000
5 %	●	\$26,000,000	\$1,300,000
3850 m <sup>2</sup>	●	\$200	\$770,000
1 Isum	●	\$200,000	\$200,000
12299 m <sup>2</sup>	●	\$120	\$1,475,880
1260 m <sup>2</sup>	●	\$50	\$63,000
252 m <sup>2</sup>	●	\$300	\$75,600
12299 m <sup>2</sup>	●	\$20	\$245,980
475 m <sup>2</sup>	●	\$500	\$237,500
1 Isum	●	\$75,000	\$75,000
Retail Shop subtotal:			\$1,447,500

525 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
450 m <sup>2</sup>	●	\$2,200	\$990,000
25 m <sup>2</sup>	●	\$2,200	\$55,000
50 m <sup>2</sup>	●	\$1,800	\$90,000
475 m <sup>2</sup>	●	\$500	\$237,500
1 Isum	●	\$75,000	\$75,000
Retail Shop subtotal:			\$1,447,500

320 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
320 m <sup>2</sup>	●	\$1,100	\$352,000
160 m <sup>2</sup>	●	\$900	\$144,000
480 m <sup>2</sup>	●	\$250	\$120,000
Existing Entry Renovation subtotal:			\$616,000

400 m <sup>2</sup> building	Quantity Unit	Unit Cost	Subtotal
300 m <sup>2</sup>	●	\$2,200	\$660,000
100 m <sup>2</sup>	●	\$3,000	\$300,000
300 m <sup>2</sup>	●	\$500	\$150,000
1 Isum	●	\$100,000	\$100,000
Restaurant subtotal:			\$1,210,000

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2.12 Gecko Exhibit	Scrub Python			
1 Densely Planted Exhibits: surfacing, planting, and irrigation	2 m <sup>2</sup>	●	\$140	\$280
2 Exhibit Barriers: 3m high glass enclosure	15 m <sup>2</sup>	●	\$1,500	\$22,500
3 Pool: shotcrete, 0.5m deep	1 m <sup>2</sup>	●	\$600	\$600
4 Life Support Systems - small: 0-25 cubic metres per hour filtered	2 m <sup>2</sup>	●	\$4,000	\$8,000
5 Viewing Shelter: wood &/or concrete structure w/ roof	10 m <sup>2</sup>	●	\$1,200	\$12,000
6 Exhibit Furnishings: downed logs, etc.	1 Isum	●	\$10,000	\$10,000

1.00 General Site Work, Public Spaces, and Orientation/Interpretation:	1 Site Demonstration	25,200 m <sup>2</sup>	●	\$5	\$126,000
	2 Orientation/Interpretive Media	5 %	●	\$26,000,000	\$1,300,000
	3 Art Installations	5 %	●	\$26,000,000	\$1,300,000
	4 Entry Plaza: base, surfacing, storm drainage	3850 m <sup>2</sup>	●	\$200	\$770,000
	5 Water Feature	1 Isum	●	\$200,000	\$200,000
	6 Plantings: soil preparation and planting	12299 m <sup>2</sup>	●	\$120	\$1,475,880
	7 Earthwork: balanced cut and fill	1260 m <sup>2</sup>	●	\$50	\$63,000
	8 Rock Excavation: allowance	252 m <sup>2</sup>	●	\$300	\$75,600
	9 Irrigation: dense planting	12299 m <sup>2</sup>	●	\$20	\$245,980
	10 Parking Lot Renovation: 360 spaces @ 32m <sup>2</sup>	11520 m <sup>2</sup>	●	\$50	\$576,000
	11 Utility Services: water, power, sewers	15 %	●	\$26,000,000	\$3,900,000

H. Entry Redevelopment:

2.00 Entry Retail Shop and Ticketing:

1 Shop Area	450 m <sup>2</sup>	●	\$2,200	\$990,000
2 Ticketing	25 m <sup>2</sup>	●	\$2,200	\$55,000
3 Storage Area	50 m <sup>2</sup>	●	\$1,800	\$90,000
4 Furnishings	475 m <sup>2</sup>	●	\$500	\$237,500
5 Ticketing Systems	1 Isum	●	\$75,000	\$75,000
Retail Shop subtotal: \$1,447,500				

3.00 Entry Building Renovation

1 Ground Floor	320 m <sup>2</sup>	●	\$1,100	\$352,000
2 First Floor	160 m <sup>2</sup>	●	\$900	\$144,000
3 Furnishings	480 m <sup>2</sup>	●	\$250	\$120,000
Existing Entry Renovation subtotal: \$616,000				

4.00 Restaurant: (seating for 180 visitors)

1 Seating Area	300 m <sup>2</sup>	●	\$2,200	\$660,000
2 Kitchen Area	100 m <sup>2</sup>	●	\$3,000	\$300,000
3 Seating Area Furnishings	300 m <sup>2</sup>	●	\$500	\$150,000
4 Kitchen Equipment	1 Isum	●	\$100,000	\$100,000
Restaurant subtotal: \$1,210,000				

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Serena's Restaurant subtotal: \$1,210,000

Quantity	Unit	Unit Cost	Subtotal
400 m <sup>2</sup> building		\$2,200	\$880,000
300 m <sup>2</sup>		\$2,200	\$660,000
2 Kitchen Area		\$3,000	\$6,000
100 m <sup>2</sup>		\$3,000	\$300,000
2 Kitchen Area		\$3,000	\$6,000
300 m <sup>2</sup>		\$2,200	\$660,000
1 Kitchen Area		\$3,000	\$3,000
300 m <sup>2</sup>		\$500	\$150,000
4 Kitchen Equipment		\$100,000	\$400,000
1 Isum		\$100,000	\$100,000

Taronga Boulevard Restaurant subtotal: \$1,210,000

Quantity	Unit	Unit Cost	Subtotal
15 m <sup>2</sup> building		\$2,200	\$33,000
15 m <sup>2</sup>		\$500	\$7,500
2 Furnishings		\$500	\$1,000
1 Building		\$2,200	\$2,200
2 Furnishings		\$500	\$1,000
15 m <sup>2</sup>		\$500	\$7,500
15 m <sup>2</sup>		\$500	\$7,500

7.00 Toilets

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

7.01 Concert Lawn/Australian Farm Toilets

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

5.01 Serena's Restaurant: (seating for 180 visitors)

Quantity	Unit	Unit Cost	Subtotal
1 Seating Area		\$500	\$500
2 Kitchen Area		\$3,000	\$6,000
3 Seating Area Furnishings		\$500	\$1,500
4 Kitchen Equipment		\$100,000	\$400,000

5.02 Taronga Boulevard Restaurant (Asia): (seating for 180 visitors)

Quantity	Unit	Unit Cost	Subtotal
1 Seating Area		\$288,000	\$288,000
2 Kitchen Area		\$480,000	\$960,000
3 Seating Area Furnishings		\$294,500	\$883,500
4 Kitchen Equipment		\$353,400	\$1,413,600

6.00 Information Kiosk

Quantity	Unit	Unit Cost	Subtotal
1 Building		\$25,000	\$25,000
2 Furnishings		\$75,000	\$150,000

7.02 Serena's Restaurant Toilets

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

7.03 Taronga Boulevard Toilets (Restaurant/Seal Show)

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

7.04 Bird Show Toilets

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

7.05 Lower Retail Exit Toilets

Quantity	Unit	Unit Cost	Subtotal
120 m <sup>2</sup> building		\$3,000	\$360,000
120 m <sup>2</sup>		\$750	\$90,000
2 Fixtures		\$750	\$1,500
1 Building		\$3,000	\$3,000
240 m <sup>2</sup>		\$750	\$180,000
240 m <sup>2</sup>		\$750	\$180,000

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Heart of the Zoo 23,560 m<sup>2</sup> area

Quantity	Unit	Unit Cost	Subtotal
23,560 m <sup>2</sup>		\$5	\$117,800
2 Orientation/Interpretive Media		\$34,000,000	\$68,000,000
5 %		\$34,000,000	\$17,000,000
5 %		\$34,000,000	\$17,000,000
1600 m <sup>2</sup>		\$200	\$320,000
1200 m <sup>2</sup>		\$1,000	\$1,200,000
1 Isum		\$750,000	\$750,000
300 m <sup>2</sup>		\$500	\$150,000
160 m <sup>2</sup>		\$500	\$80,000
1 Isum		\$500,000	\$500,000
9600 m <sup>2</sup>		\$30	\$288,000
4000 m <sup>2</sup>		\$120	\$480,000
5890 m <sup>2</sup>		\$50	\$294,500
1178 m <sup>2</sup>		\$300	\$353,400
9600 m <sup>2</sup>		\$8	\$76,800
4300 m <sup>2</sup>		\$20	\$86,000
6200 m <sup>2</sup>		\$100	\$620,000
1 Isum		\$75,000	\$75,000
500 m <sup>2</sup>		\$50	\$25,000
15 %		\$34,000,000	\$51,000,000

subtotal: \$13,916,500

Islands Interpretive Center subtotal: \$1,440,000

Quantity	Unit	Unit Cost	Subtotal
200 m <sup>2</sup> building		\$2,200	\$440,000
200 m <sup>2</sup>		\$5,000	\$1,000,000
1 Visitor Areas		\$3,000	\$300,000
300 m <sup>2</sup>		\$5,000	\$1,500,000
50 m <sup>2</sup>		\$1,500	\$75,000

Invertebrate Interpretive Centre subtotal: \$1,875,000

Quantity	Unit	Unit Cost	Subtotal
300 m <sup>2</sup> building		\$2,200	\$660,000
250 m <sup>2</sup>		\$2,200	\$550,000
50 m <sup>2</sup>		\$1,800	\$90,000
250 m <sup>2</sup>		\$500	\$125,000

Heart of the Zoo Retail Shop subtotal: \$765,000

Quantity	Unit	Unit Cost	Subtotal
175 m <sup>2</sup> building		\$2,200	\$385,000
150 m <sup>2</sup>		\$2,200	\$330,000
25 m <sup>2</sup>		\$1,800	\$45,000
150 m <sup>2</sup>		\$500	\$75,000

Lower Exit Retail Shop subtotal: \$450,000

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

1, Heart of the Zoo

Quantity	Unit	Unit Cost	Subtotal
1 Site Demolition		\$5	\$5
3 Art Installations		\$34,000,000	\$102,000,000
2 Orientation/Interpretive Media		\$34,000,000	\$68,000,000
5 %		\$34,000,000	\$17,000,000
5 %		\$34,000,000	\$17,000,000
1600 m <sup>2</sup>		\$200	\$320,000
1200 m <sup>2</sup>		\$1,000	\$1,200,000
1 Isum		\$750,000	\$750,000
300 m <sup>2</sup>		\$500	\$150,000
160 m <sup>2</sup>		\$500	\$80,000
1 Isum		\$500,000	\$500,000
9600 m <sup>2</sup>		\$30	\$288,000
4000 m <sup>2</sup>		\$120	\$480,000
5890 m <sup>2</sup>		\$50	\$294,500
1178 m <sup>2</sup>		\$300	\$353,400
9600 m <sup>2</sup>		\$8	\$76,800
4300 m <sup>2</sup>		\$20	\$86,000
6200 m <sup>2</sup>		\$100	\$620,000
1 Isum		\$75,000	\$75,000
500 m <sup>2</sup>		\$50	\$25,000
15 %		\$34,000,000	\$51,000,000

subtotal: \$13,916,500

Islands Interpretive Center subtotal: \$1,440,000

Quantity	Unit	Unit Cost	Subtotal
200 m <sup>2</sup> building		\$2,200	\$440,000
200 m <sup>2</sup>		\$5,000	\$1,000,000
1 Restore Existing Building		\$3,000	\$300,000
300 m <sup>2</sup>		\$5,000	\$1,500,000
50 m <sup>2</sup>		\$1,500	\$75,000

Invertebrate Interpretive Centre subtotal: \$1,875,000

Quantity	Unit	Unit Cost	Subtotal
300 m <sup>2</sup> building		\$2,200	\$660,000
250 m <sup>2</sup>		\$2,200	\$550,000
50 m <sup>2</sup>		\$1,800	\$90,000
250 m <sup>2</sup>		\$500	\$125,000

Heart of the Zoo Retail Shop subtotal: \$765,000

Quantity	Unit	Unit Cost	Subtotal
175 m <sup>2</sup> building		\$2,200	\$385,000
150 m <sup>2</sup>		\$2,200	\$330,000
25 m <sup>2</sup>		\$1,800	\$45,000
150 m <sup>2</sup>		\$500	\$75,000

Lower Exit Retail Shop subtotal: \$450,000

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1540 m<sup>2</sup> area

Quantity	Unit	Cost	Subtotal
120 m <sup>2</sup>	• \$1,800	• \$216,000	
20 m <sup>2</sup>	• \$3,000	• \$60,000	
20 m <sup>2</sup>	• \$750	• \$15,000	
200 m <sup>2</sup>	• \$750	• \$150,000	
400 m <sup>2</sup>	• \$500	• \$200,000	
80 m <sup>2</sup>	• \$750	• \$60,000	
120 m <sup>2</sup>	• \$188	• \$22,500	
200 m <sup>2</sup>	• \$40	• \$8,000	
400 m <sup>2</sup>	• \$50	• \$20,000	
Subtotal			\$751,500

Botanic Estate subtotal: \$751,500

550 m<sup>2</sup> building

Quantity	Unit	Cost	Subtotal
350 m <sup>2</sup>	• \$1,500	• \$525,000	
200 m <sup>2</sup>	• \$3,000	• \$600,000	
200 m <sup>2</sup>	• \$500	• \$100,000	
Subtotal			\$1,225,000

Veterinary Block subtotal: \$1,225,000

Total of Subtotals: \$9,313,175  
 Contingency at 10%: \$931,317  
 Professional Fees, Testing, Construction Administration at 25%: \$2,561,123  
 Support Areas Total: \$12,805,615

Taronga Zoo Master Plan  
 Exhibit Brief and Capital Construction Costs

4.00 Botanic Estate

4.01 Botanic Estate

1 Offices, and Staff Areas

2 Toilets and Showers

3 Fixtures

4 Enclosed Service and Storage Areas

5 Vehicle Storage Areas

6 Greenhouses

7 Lathouses

8 Nursery Areas

9 Exterior Service and Storage Areas

5.00 Veterinary Block

5.01 Veterinary Block

1 Existing Building: renovate

2 Addition

3 Furnishings

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120 m<sup>2</sup> building

Quantity	Unit	Cost	Subtotal
na m <sup>2</sup>	• na	• \$0	
300 m <sup>2</sup>	• \$500	• \$150,000	
Subtotal			\$150,000

Existing Bird Show Amphitheatre subtotal: \$150,000

200 m<sup>2</sup> exhibit area

Quantity	Unit	Cost	Subtotal
200 m <sup>2</sup>	• na	• \$0	
Subtotal			\$0

Condor Exhibit subtotal: \$0

Total of Subtotals: \$24,207,000  
 Contingency at 10%: \$2,420,700  
 Professional Fees, Testing, Construction Administration at 25%: \$6,656,925  
 Heart of the Zoo Total: \$33,284,625

50,000 m<sup>2</sup> area

Quantity	Unit	Cost	Subtotal
5,130 m <sup>2</sup>	• \$5	• \$25,650	
2000 m <sup>2</sup>	• \$60	• \$120,000	
1283 m <sup>2</sup>	• \$50	• \$64,125	
513 m <sup>2</sup>	• \$300	• \$153,900	
2000 m <sup>2</sup>	• \$20	• \$40,000	
2000 m <sup>2</sup>	• \$50	• \$100,000	
15 %	• \$12,500,000	• \$1,875,000	
Subtotal			\$2,378,675

1840 m<sup>2</sup> area

Quantity	Unit	Cost	Subtotal
120 m <sup>2</sup>	• \$1,800	• \$216,000	
20 m <sup>2</sup>	• \$3,000	• \$60,000	
20 m <sup>2</sup>	• \$750	• \$15,000	
80 m <sup>2</sup>	• \$3,000	• \$240,000	
100 m <sup>2</sup>	• \$1,500	• \$150,000	
500 m <sup>2</sup>	• \$2,500	• \$1,250,000	
1000 m <sup>2</sup>	• \$500	• \$500,000	
Subtotal			\$2,431,000

Conservation Breeding Centre subtotal: \$2,431,000

1200 m<sup>2</sup> building

Quantity	Unit	Cost	Subtotal
1000 m <sup>2</sup>	• \$1,800	• \$1,800,000	
60 m <sup>2</sup>	• \$3,000	• \$180,000	
60 m <sup>2</sup>	• \$750	• \$45,000	
140 m <sup>2</sup>	• \$1,800	• \$252,000	
1000 m <sup>2</sup>	• \$250	• \$250,000	
Subtotal			\$2,527,000

Staff Facilities subtotal: \$2,527,000

Taronga Zoo Master Plan

8.00 Bird Show and Condor Exhibit

1 Existing amphitheatre

2 Shade Structure

8.02 Condor Exhibit:

Andean Condor

1 Exhibit under construction

Support Areas:

1.00 General Site Work:

1 Site Demolition

2 Plantings: soil preparation and planting

3 Earthwork: balanced cut and fill

4 Rock Excavation: allowance

5 Irrigation: dense planting

6 Service Road: base, surfacing, storm drainage

7 Utility Services: water, power, sewers

2.00 Conservation Breeding Centre

2.01 Conservation Breeding Centre

1 Offices and Staff Areas

2 Toilets and Showers

3 Fixtures

4 Labs

5 Enclosed Service and Storage Areas

6 Animal Breeding Areas: interior

7 Animal Breeding Areas: exterior

3.00 Staff Facilities:

1 Staff Areas

2 Toilets and Showers

3 Fixtures

4 Service Areas

5 Furnishings